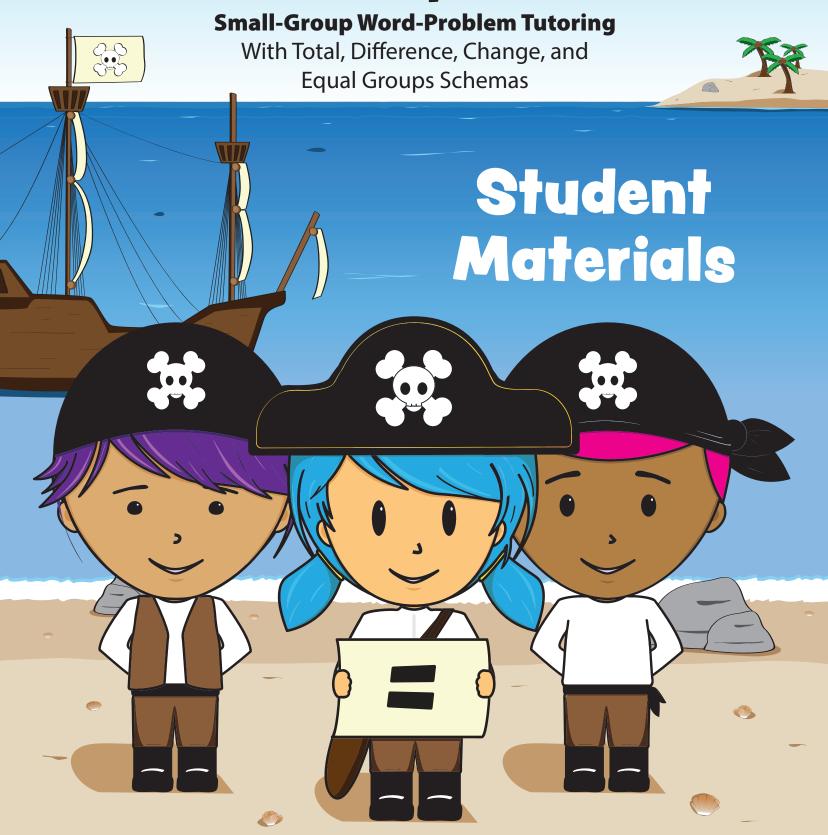
Pirate Math Equation Quest



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Pirate Math Equation Quest

Small-Group
Word-Problem Intervention
with Total, Difference, Change, and
Equal Groups Schemas

STUDENT MATERIALS

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Welcome to *Pirate Math Equation Quest!*

We designed this version of *Pirate Math Equation Quest* as a small-group intervention for use with students at the third-grade instructional level. This version of the program was developed to offer support to Tier-2 and Tier-3 students who require supplemental mathematics remediation in the area of word-problem solving. The focus of the *Pirate Math Equation Quest* small-group intervention is single-digit and double-digit additive and multiplicative word problems that include four schemas: Total, Difference, Change, and Equal Groups.

This manual includes the Student Lesson Packets and accompanying Supplemental Materials (i.e., posters, maps, cards, graphs, and mats) necessary to implement *Pirate Math Equation Quest* with small groups of 3-4 students. A separate Teacher Manual includes the teacher materials, including the Teacher Lesson Guides and Teacher Activity Guides, needed to implement *Pirate Math Equation Quest*.

Scientific evaluations of *Pirate Math Equation Quest* indicated that at-risk third-grade students (with and without mathematics disabilities) who performed in the lowest 13th percentile of their classes demonstrated improved word-problem performance with *Pirate Math Equation Quest* compared to students who did not participate in *Pirate Math Equation Quest* (Powell, Berry, & Barnes, 2019).



This Student Manual includes the following:

Introduction

- Basic information about implementing Pirate Math Equation Quest
- Explanation of Student Materials
- Explanation of Supplemental Materials
- Explanation of Other Materials

Student Lesson Packets 1-39

• Student Lesson Packets include all of the materials the students will need for each lesson. Each Lesson Packet includes 4 pages (1) Equation Quest worksheet (begins in Lesson 2; page 1), (2) Buccaneer Problem worksheet (pages 2-3), and (3) Jolly Roger Review worksheet (page 4).

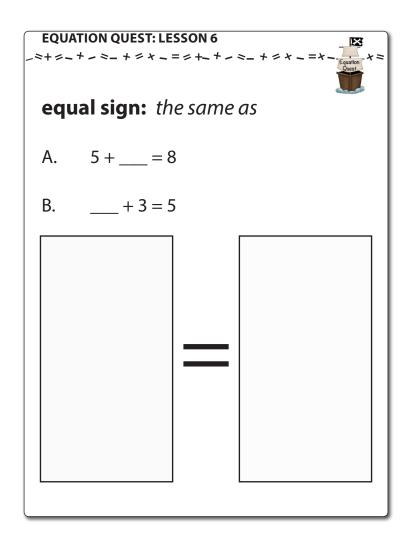


The Student Materials needed for each lesson are organized in a packet by lesson. For example, the Student Lesson Packet for Lesson 6 is labeled Lesson 6 Group Student Lesson Packet.

Student Lesson Packets include the following 4 pages:

- (1) Equation Quest (beginning in Lesson 2; page 1)
- (2) Buccaneer Problems (pages 2-3)
- (3) Jolly Roger Review (page 4)

Pictured below is the Equation Quest worksheet, page 1, in the Lesson 6 Group Student Lesson Packet.



All Student Lesson Packets include 4 pages, so the packets can be printed for students in a set prior to the lesson. Teachers should print the Student Lesson Packets double-sided with a staple in the top left-hand corner. *Note that page 1 of the Student Lesson Packets for Lesson 1 is blank because Equation Quest is introduced during Lesson 2*. The Student Lesson Packets for all 39 lessons are included in this manual.

After Equation Quest, students complete three Buccaneer Problems. Buccaneer Problems serve as a guided practice opportunity for students to solve word problems. Teachers provide support and feedback as needed.

Page 2, the front side of the Buccaneer Problems worksheet in the Lesson 6 Group Student Lesson Packet, is displayed below.

BUCCANEER PROBLEMS: LESSON 6 A. Mrs. Taylor bought 4 apples and 9 bananas. How many apples and bananas did Mrs. Taylor buy? B. Alex found 3 shells and 8 rocks on the beach. He found 7 leaves in the woods. How many shells and rocks did Alex find on the beach?

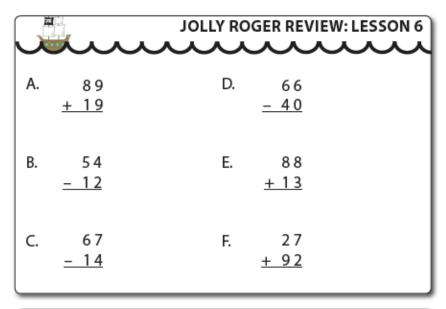
Page 3, the back side of the Buccaneer Problems worksheet in the Lesson 6 Group Student Lesson Packet, is displayed below. Buccaneer Problems include three word-problems: Problems A, B, and C.

B. The table shows the animals on Farmer Mack's farm. If he has 15 cows and horses, how many cows does he have?

Horses	7
Pigs	3
Cows	
Goats	2

C. The baker has 42 chocolate and strawberry cupcakes. If 26 of the cupcakes are chocolate, how many are strawberry?

The final worksheet in the Group Student Lesson Packet is the Jolly Roger Review. The Jolly Roger Review is an independent practice activity that provides students the opportunity to demonstrate their understanding of learned concepts. Below is the Jolly Roger Review worksheet, page 4, in the Lesson 6 Group Student Lesson Packet.



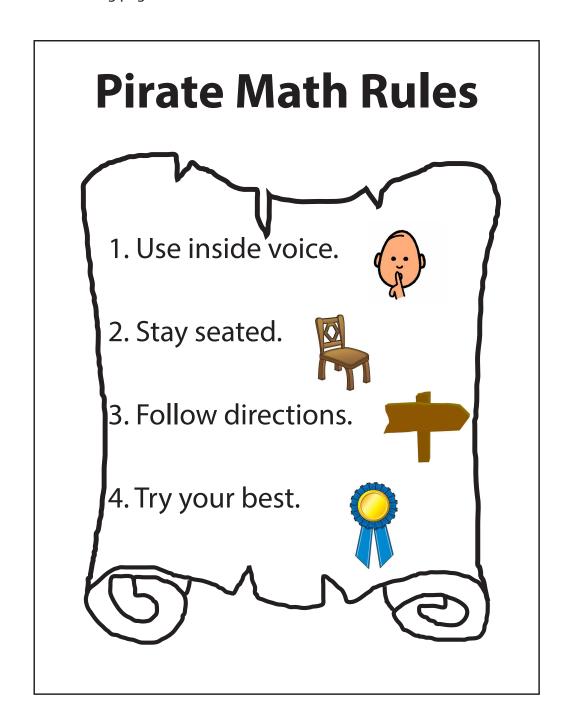
Vanessa and Diego ate 46 tacos. They ate 2 bowls of queso. If Diego ate 12 tacos, how many tacos did Vanessa eat?

Teachers score the top of the Jolly Roger Review worksheet as the number of addition, subtraction, multiplication, and/or division problems answered correctly. Teachers score the bottom of the Jolly Roger Review worksheet out of 2 points. Students earn one point for the correct number answer; students earn one point for the correct label answer. As needed, teachers provide feedback and a brief review to students.



Supplemental Materials

Pirate Math Equation Quest includes six posters for teachers to display throughout the lessons. Templates for the posters are included in this manual. In the beginning lessons, teachers should display the Pirate Math Rules and Counting Up Addition and Subtraction posters pictured on this page and the following page.



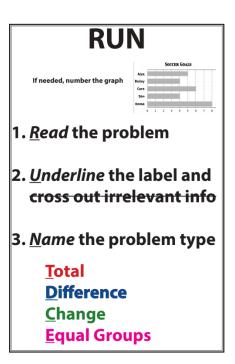
COUNTING UP Addition

- 1. Put the <u>greater</u> number in your fist and say it.
- 2. Count up the number that's <u>less</u> on your fingers.
- 3. The <u>sum</u> is the last number you say.

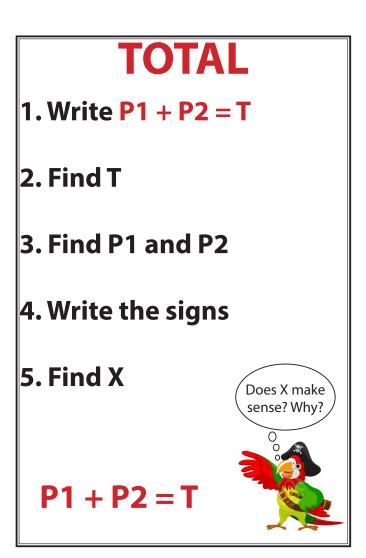
COUNTING UP Subtraction

- 1. Put the <u>minus</u> number in your fist and say it.
- 2. Count up your fingers to the number you <u>start</u> with.
- 3. The <u>difference</u> is the number of fingers you have up.

As teachers introduce the four schemas, Total, Difference, Change, and Equal Groups, they need to display the RUN poster, pictured below, and the corresponding schema posters for students to reference. The RUN poster provides an attack strategy for students to use as they solve word problems.



The schema posters, pictured below and on the following page, provide specific steps for setting up and solving a word problem after identifying the correct schema. Total problems are introduced during Lesson 4, Difference problems are introduced during Lesson 11, Change problems are introduced during Lesson 19, and Equal Groups problems are introduced during Lesson 28.



DIFFERENCE

- 1. Write **G** L = **D**
- 2. [Compare sentence] and label G and L
- 3. Find D
- 4. Find G and L
- 5. Write the signs
- 6. Find X

$$G - L = D$$



CHANGE

- 1. Write ST +/- C = E
- 2. Find ST
- 3. Find C
- 4. Find E
- 5. Write the signs Does X make



6. Find X

$$ST + / - C = E$$



EQUAL GROUPS

- 1. Write $GR \times N = P$
- 2. Find P
- 3. Find GR and N
- 4. Write the signs
- 5. Find X

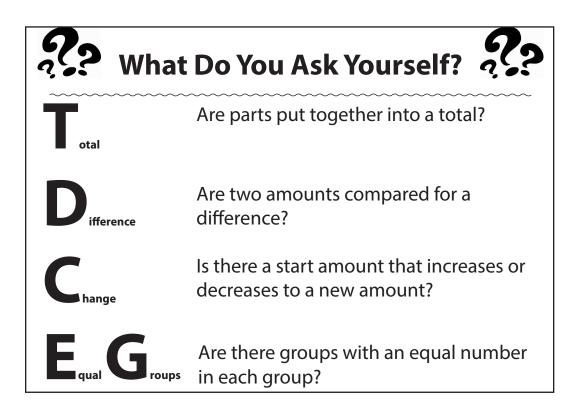


Does X make

sense? Why?

 $GR \times N = P$

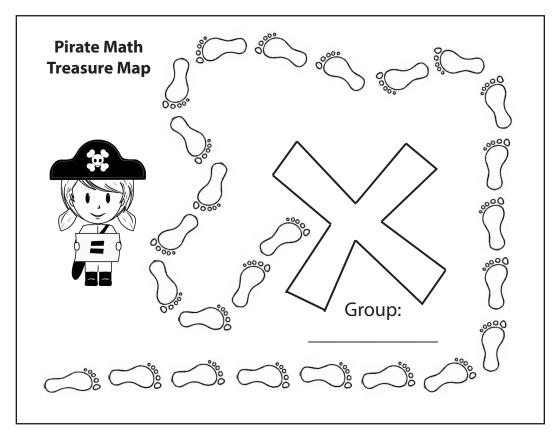
After teachers have introduced the Total, Difference, Change, and Equal Groups problems, they should display the What Do You Ask Yourself? poster, featured below. The What Do You Ask Yourself? poster, introduced during Lesson 29, provides a prompt for students to ask questions and gesture to determine the correct schema. We encourage teachers to use gestures to help students recall the four schemas. The Total gesture is introduced in Lesson 4. The Difference gesture is introduced in Lesson 11. The Change gesture is introduced in Lesson 19. The Equal Groups gesture is introduced in Lesson 28. Teachers can refer to the Lesson Guides to learn the specific schema gestures to model for students. Students often struggle to identify the correct problem type after all four schemas have been introduced. This poster helps students to distinguish between the Total, Difference, Change, and Equal Groups schemas.

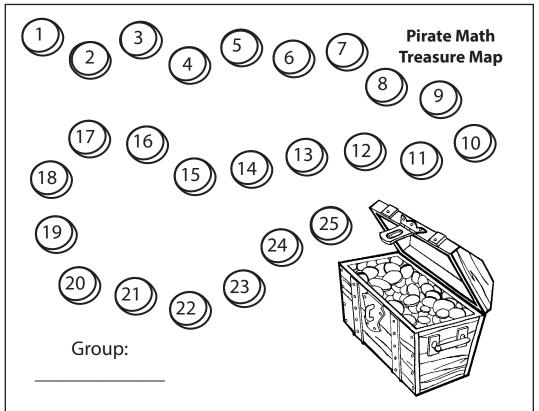


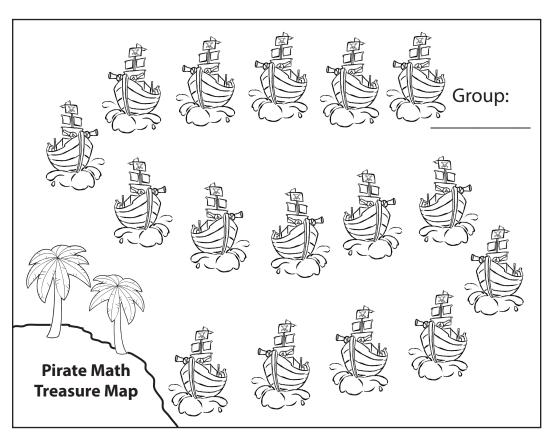
During every lesson, teachers also display the Treasure Map. Throughout each lesson, students can earn coins for their Treasure Map for following the Pirate Math rules. When students reach the end of their Treasure Map, they earn a novelty prize from a treasure box.

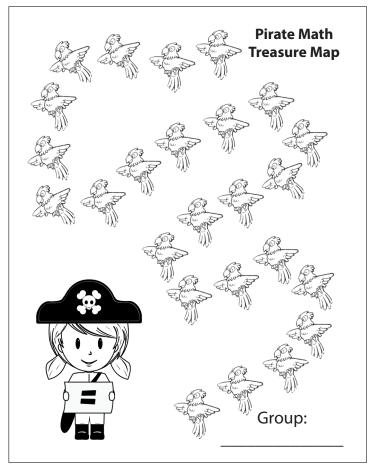
If teachers do not have coins, they can use stamps, stickers, or colored pencils to color the designated number of spaces on the Treasure Map. Similarly, teachers can use any prize bag or box if they do not have a treasure box.

On the following pages are four different variations of the Treasure Map. Teachers can choose one map or alternate maps depending on students' preferences. All four Treasure Map templates are included in this manual.



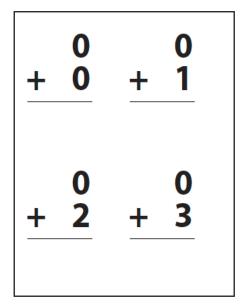


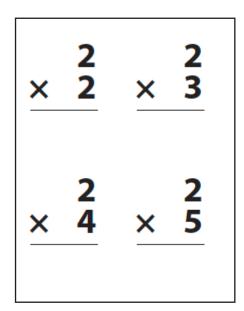




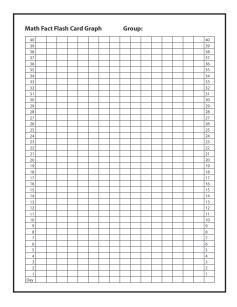
For the Math Fact Flashcards Activity, teachers need to cut and print the Math Fact Flashcards and print the Math Fact Flashcards graph. Templates for the Math Fact Flashcards and the Math Fact Flashcards graph are included in this manual.

There are two sets of Math Fact Flashcards for the small group intervention. The first set includes an addition or subtraction problem on the front side of the card and the correct answer on the back side of the card. The second set includes a multiplication or division problem on the front side of the card and the correct answer on the back side of the card. It is recommended that teachers print these cards double-sided on cardstock. There are four problems per page; teachers should cut each page into fourths using a paper cutter.



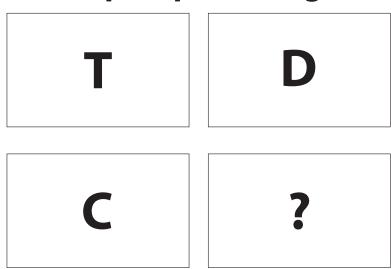


Teachers also need to print the Math Fact Flashcard Graph, pictured below, in advance of the lesson. At the end of the Math Fact Flashcards activity, students graph their higher score from the two trials on the graph below. Teachers should plan to copy extra graphs for easy access after students complete the first graph.



During Shipshape Sorting, which begins in Lesson 7, students participate in schema sorting practice using sorting cards and the sorting mat, displayed below. Templates for the Shipshape Sorting Mat and accompanying cards are included in this manual.

Shipshape Sorting



The Shipshape Sorting cards include a word problem on the front side of the card and the correct schema (i.e., T for Total, D for Difference, and C for Change) on the back side of the card. It is recommended that teachers print the Shipshape Sorting cards double-sided on cardstock. There are four word problems per page; teachers should cut each page into fourths using a paper cutter. There are no sorting cards for Equal Groups problems. If desired, teachers can create their own Equal Groups sorting cards and a new sorting mat that includes an EG box.

Jerry saw 3 sharks at the Dante's mom planted 8 trees and aquarium. He saw 2 turtles. How rose bushes in the yard. She many sharks and turtles did Jerry planted 4 rose bushes. How many see? trees did she plant? Ann and Elise sold 7 boxes of Girl Mrs. Towns spent \$4 at the Scout cookies. Elise sold 3 boxes. grocery store and \$5 at the pet store. How much money did she How many boxes of cookies did Ann sell? spend in all?



Other Materials

The following materials are used throughout the program but are not included in this manual.

- Timer
- Cubes
- Gold coins
- Treasure box
- Dry erase board
- Dry erase markers
- Dry erasers
- Blue painter's tape

The timer is used during the timed activities: Math Fact Flashcards, Shipshape Sorting, and Jolly Roger Review.

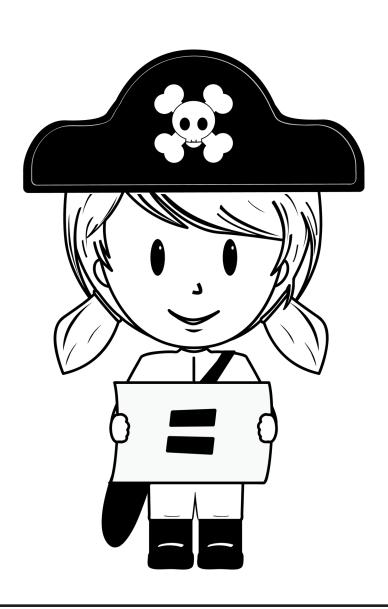
Different colored unit cubes are used during Equation Quest to help students develop their prealgebraic reasoning skills. The timer and cubes can be purchased from a teacher supply store or a mathematics manipulatives company.

The gold coins and treasure box are used throughout each lesson to reward students for following the Pirate Math rules. As previously mentioned, stamps, stickers, or colored pencils can substitute for gold coins. Teachers can use any prize bag or box if they do not have a treasure box.

The dry erase board, dry erase markers, dry erasers, and blue painter's tape are used during lessons that include Equal Groups problems (i.e., Lessons 28-39) to help students understand the concept of Equal Groups. Students use these materials to illustrate groups with an equal number in each group. Teachers can purchase these materials from a teacher or office supply store.

For all lessons, teachers and students also need pencils.

Student
Lesson Packets



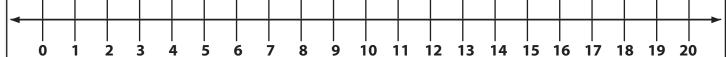
EQUATION QUEST: LESSON 1

=+ = - + = + = + - + - = + = x - = x - Equation Quest



BUCCANEER PROBLEMS: LESSON 1





A.
$$5 + 3 =$$

B.
$$4 + 2 =$$

C.
$$7 + 3 =$$

D.
$$3 + 4 =$$

E.
$$6 + 4 =$$

F.
$$5 + 8 =$$

G.
$$7 + 6 =$$

H.
$$8 + 9 =$$

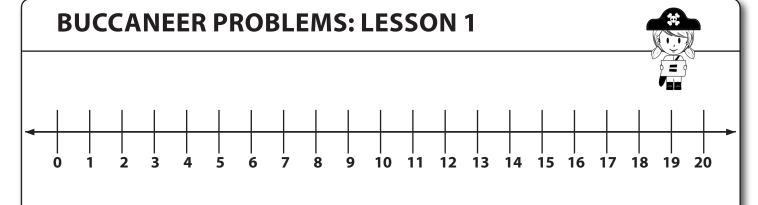
I.
$$9-4=$$

K.
$$15 - 8 =$$

M.
$$5 + 8 =$$

N.
$$10 - 3 =$$

O.
$$9 - 6 =$$



With the exception of Lesson 1, all Buccaneer Problems include 2 pages. Students may use this page to show their work.



JOLLY ROGER REVIEW: LESSON 1

A.
$$6 + 3 =$$

F.
$$1 + 7 =$$

B.
$$9-2=$$

G.
$$8 + 2 =$$

C.
$$13 - 6 =$$

H.
$$10 - 8 =$$

D.
$$2 + 5 =$$

I.
$$14 - 7 =$$

E.
$$9 + 5 =$$

J.
$$8 + 3 =$$

JOLLY ROGER REVIEW: LESSON 1

Tessa drew 2 pictures of cats. She drew 5 pictures of dogs. How many pictures did Tessa draw?

EQUATION QUEST: LESSON 2



equal sign: the same as

A.
$$4 + 6 = 10$$

B.
$$5 + 8 = 13$$

C.
$$5 = 2 + 3$$

D.
$$21 + 54 = 75$$

E.
$$75 = 21 + 54$$

BUCCANEER PROBLEMS: LESSON 2

A.
$$2 + 8 =$$

B.
$$15 - 7 =$$

C.
$$36 + 22 =$$

D.
$$49 + 14 = ____$$

E.
$$35 - 23 =$$

F.
$$62 - 48 =$$

G.
$$47 - 25 =$$

H.
$$77 - 12 =$$

_

I.
$$93 - 42 =$$

M.
$$54 - 27 =$$
 N. $60 - 40 =$

N.
$$60 - 40 =$$

O.
$$31 + 26 =$$

O.
$$31 + 26 =$$
 P. $85 - 32 =$

A.
$$1 + 1 =$$

F.
$$5 + 9 =$$

B.
$$6 - 4 =$$

G.
$$12 - 8 =$$

C.
$$12 - 3 =$$

H.
$$4 + 4 =$$

D.
$$8 + 7 =$$

I.
$$9 + 5 =$$

JOLLY ROGER REVIEW: LESSON 2

EQUATION QUEST: LESSON 3

X

equal sign: the same as

A.
$$6 + 8 = 14$$

B.
$$11 = 5 + 6$$

C.
$$13 - 4 = 9$$

D.
$$72 - 10 = 62$$

E.
$$12 = 23 - 11$$

BUCCANEER PROBLEMS: LESSON 3



A.
$$14 - 8 =$$
____ B. $5 + 6 =$ ____

B.
$$5 + 6 =$$

C.
$$63 - 48 =$$

C.
$$63 - 48 =$$
 D. $13 + 24 =$

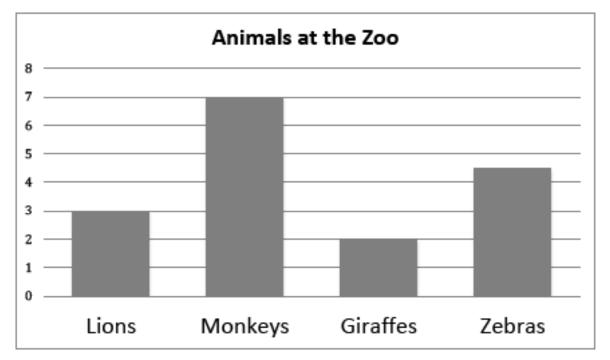
E.

Cups of Lemonade Sold		
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

Each stands for 2 cups.

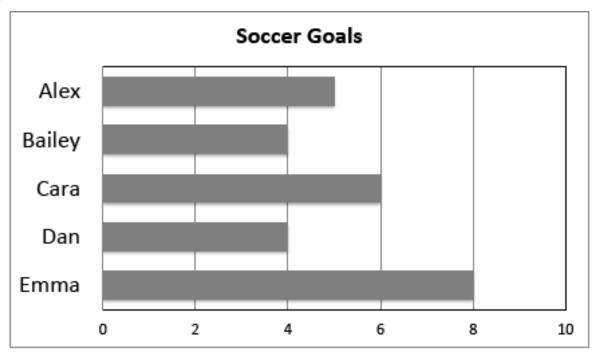
How many cups of lemonade were sold on Monday and Friday?





How many lions and giraffes are at the zoo?

G.



Which kids scored the same number of goals?



JOLLY ROGER REVIEW: LESSON 3

A.
$$13 - 4 =$$

F.
$$7 - 3 =$$

B.
$$11 - 8 =$$

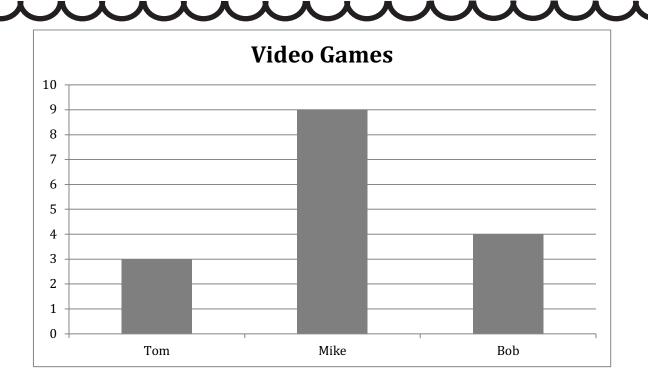
G.
$$6 + 8 =$$

C.
$$2 + 6 =$$

H.
$$9 + 2 = _{__}$$

D.
$$5 + 3 =$$

JOLLY ROGER REVIEW: LESSON 3



EQUATION QUEST: LESSON 4

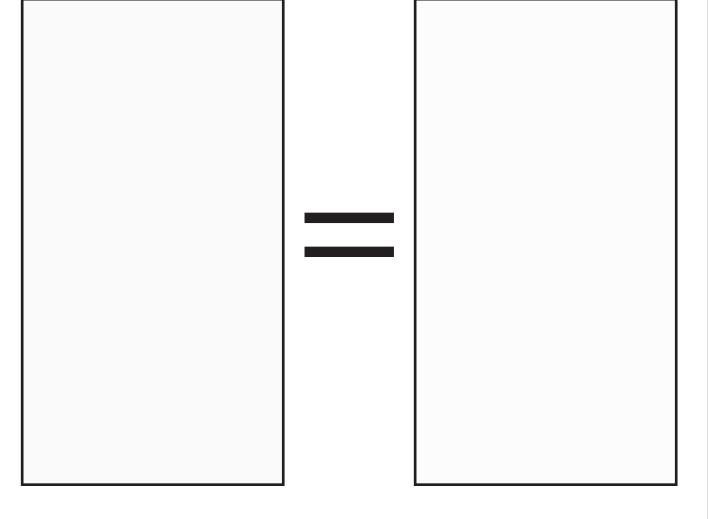




equal sign: the same as

A.
$$1 + 6 =$$

B.
$$_{--} = 5 + 5$$



BUCCANEER PROBLEMS: LESSON 4



A. Diana has 2 crayons. Stacy has 5 crayons. The girls have 7 crayons in all.

$$2 + 5 = 7$$



Diana



Stacy

B. Diana has 2 crayons. Stacy has 5 crayons. How many crayons do the girls have together?	



A.
$$1 + 8 =$$

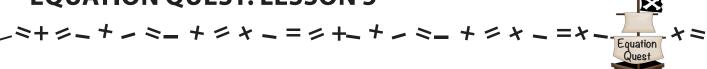
B.
$$13 - 4 =$$

E.
$$2 + 5 =$$

JOLLY ROGER REVIEW: LESSON 4

The table shows how much money each child spent at the carnival. The children spent 3 hours at the carnival. How much money did John and Wells spend?

John	\$32
Angela	\$40
Wells	\$58
Chris	\$13





B.
$$_{--} + 3 = 5$$



A. Mrs. Taylor bought 4 apples and 9 bananas. How many apples and bananas did Mrs. Taylor buy?

B. Alex found 3 shells and 8 rocks on the beach. He found 7 leaves in the woods. How many shells and rocks did Alex find on the beach?

C. For a building project, the carpenter needs 32 nails and 56 screws. The carpenter has 2 hammers. How many nails and screws does the carpenter have altogether?	

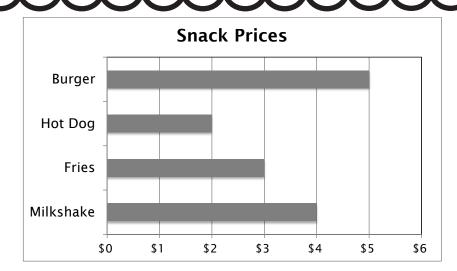


A.
$$11 - 9 =$$

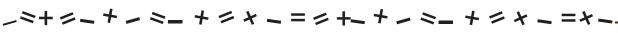
B.
$$3 + 2 =$$

E.
$$4+6=$$

JOLLY ROGER REVIEW: LESSON 5



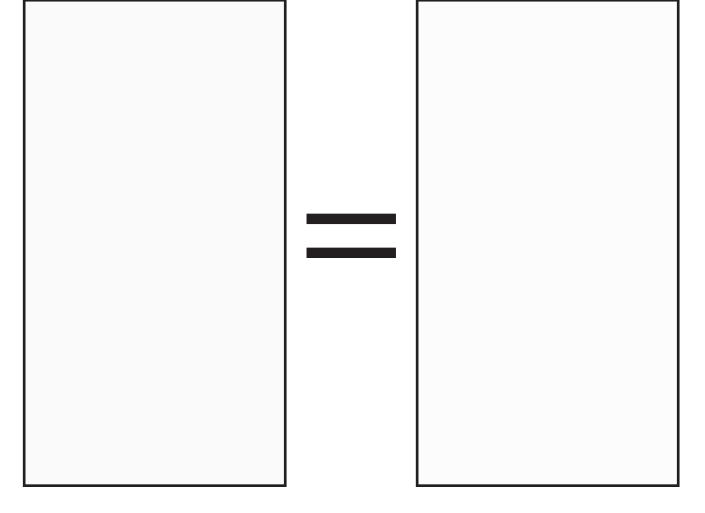
How much do a milkshake and hot dog cost altogether?





A.
$$5 + \underline{\hspace{1cm}} = 8$$

B.
$$_{--} + 3 = 5$$



BUCCANEER PROBLEMS: LESSON 6 A. Sam and Brandon packed 10 boxes. Brandon packed 3 boxes. How many boxes did Sam pack?

B. The table shows the animals on Farmer Mack's farm. If he has 15 cows and horses, how many cows does he have?

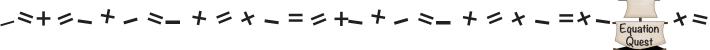
Horses	7
Pigs	3
Cows	
Goats	2

C. The baker has 42 chocolate and strawberry cupcakes. If 26 of the cupcakes are chocolate, how many are strawberry?



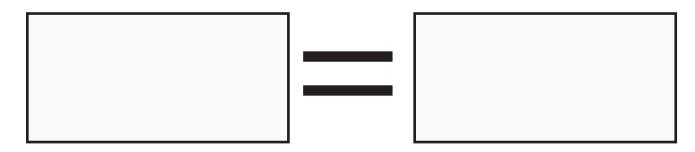
JOLLY ROGER REVIEW: LESSON 6

Vanessa and Diego ate 46 tacos. They ate 2 bowls of queso. If Diego ate 12 tacos, how many tacos did Vanessa eat?

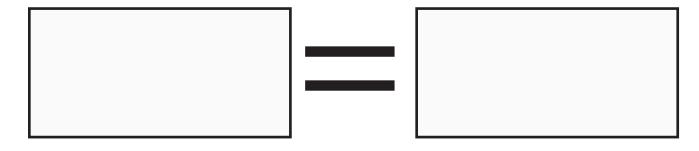




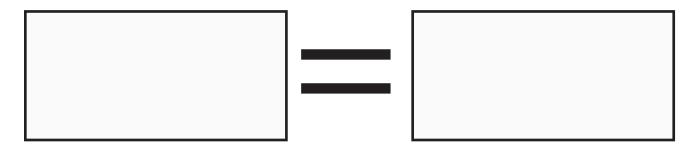
A.
$$7 = 4 +$$



B.
$$_{--} = 3 + 2$$



C.
$$_{--} + 5 = 9$$





A. Tanner spent \$27 on snacks and drinks. He bought 5 kinds of snacks. If Tanner spent \$19 on snacks, how much money did he spend on drinks?

B.

Baseball Cards		
Lamar	0000	
Katie		
Molly		
Joe	?	

Each stands for 10 baseball cards.

Lamar and Joe have 70 baseball cards together. How many cards does Joe have?

C. The Oz family has 3 children. They also have 9 cats and dogs. If the family has 4 cats, how many dogs does the family have?	



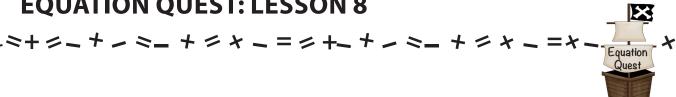
A.
$$10 - 6 =$$

B.
$$16 - 9 =$$

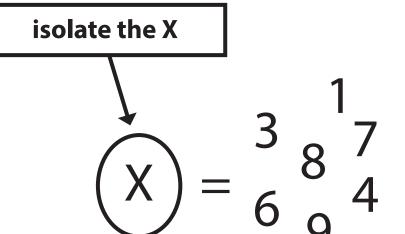
E.
$$6 + 7 =$$

JOLLY ROGER REVIEW: LESSON 7

Isabella and Missy used 60 beads to make a necklace. Isabella used 32 beads. How many beads did Missy use?



A.



B.
$$X + 3 = 7$$



A. Alex found 4 red leaves, 3 orange leaves, and 5 yellow leaves during a walk in the woods. How many leaves did he find in all?

B.

Tubes of Paint in the Art Room	
Red	ゆうりゃくとうしゃ
Yellow	Ð;-Ð;-
Blue	ヺ゚゠ヺ゠ヺ゠ヺ゠ヺ゠ヺ゠

Each Apple stands for I tube of paint.

How many tubes of paint are in the art room?

C. The table shows how much money each person spent at the grocery store.

Truman	\$32
Lincoln	\$40
Jackson	\$58
Carter	\$13

How much did Carter, Truman, and Lincoln spend?



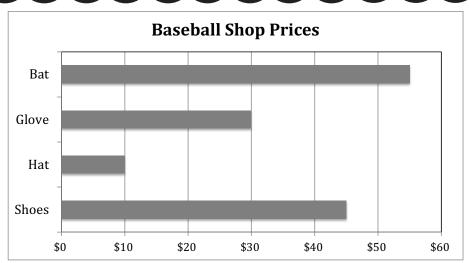
A.
$$9 - 7 =$$

B.
$$14 - 9 =$$

D.
$$5 + 8 =$$

E.
$$9 + 9 =$$

JOLLY ROGER REVIEW: LESSON 8



Manuel wants to buy a baseball bat, glove, and hat. How much money does he need?

A.
$$4 + X = 10$$

B.
$$6 + 9 = X$$



A. Katie has 14 goldfish and 13 rainbow fish. Jim has 22 clown fish. How many fish do they have in all?

B. Mrs. Chan packed 34 sandwiches for the picnic. If she packed 15 ham sandwiches and 10 turkey sandwiches, how many peanut butter sandwiches did she pack?

C.

Prices at the Burger Shack		
Burger	\$ \$ \$ \$	
Soda	?	
Fries	\$ \$ \$	

Each 💲 stands for \$1.

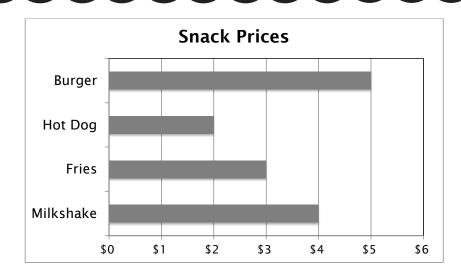
Jamie spent \$7 on a burger and a soda. How much did the soda cost?



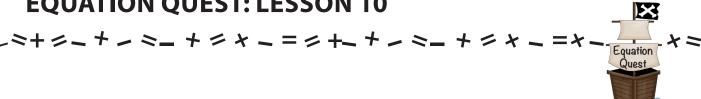
C.
$$4 + 6 =$$

D.
$$12 - 4 =$$

JOLLY ROGER REVIEW: LESSON 9



How much do a milkshake and hot dog cost altogether?





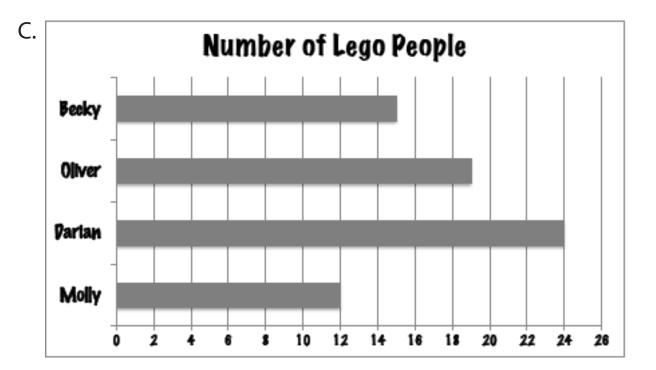
A.
$$5 + X = 9$$

B.
$$14 + X = 25$$



A. There are 15 chocolate and oatmeal cookies in the cookie jar. If there are 10 chocolate cookies, how many oatmeal cookies are there?

B. Joe, April, and Susan counted 87 animals at the zoo. Joe counted 41 animals. April counted 22 animals. How many animals did Susan count?

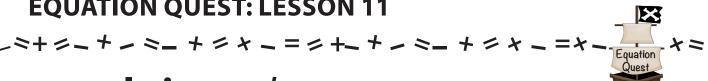


How many Lego people do Darian, Becky, and Molly have altogether?



JOLLY ROGER REVIEW: LESSON 10

Brianna and Hannah drove 154 miles. If Brianna drove 67 miles, how many miles did Hannah drive?

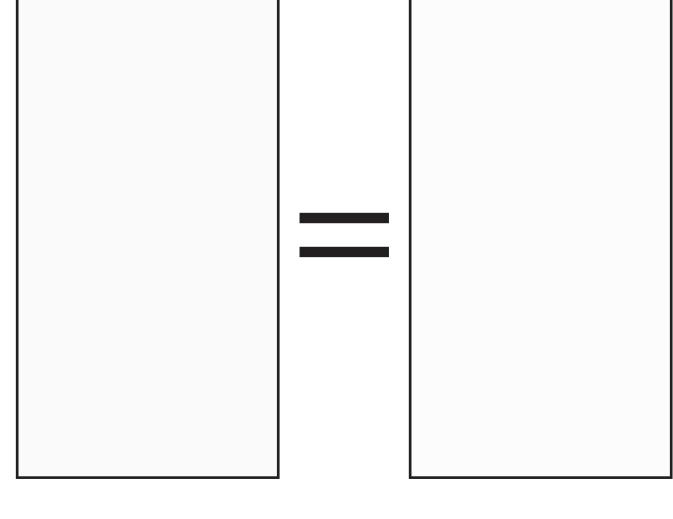




A.
$$10 - 6 = 4$$

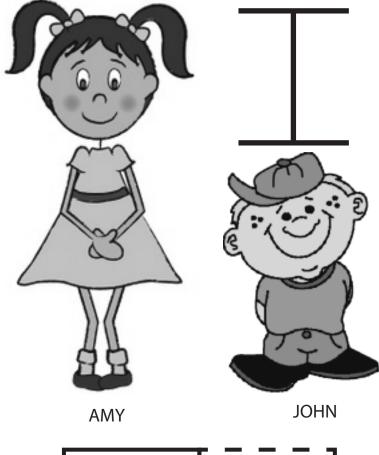
B.
$$5-2=$$

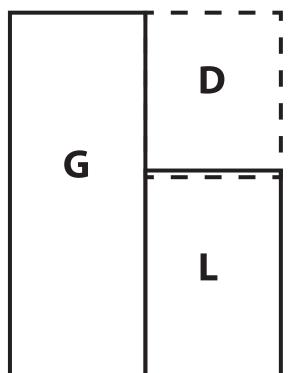
C.
$$= 8 - 3$$





A.





$$G - L = D$$

B. Kim scored 7 goals in Friday's soccer game. She scored 5 goals in Saturday's soccer game. How many more goals did she score on Friday?



A.
$$11 - 6 =$$

B.
$$17 - 9 =$$

D.
$$6 - 4 =$$

E.
$$5 + 8 =$$

JOLLY ROGER REVIEW: LESSON 11

Deepen and Sebastian went to the movies. Sebastian spent \$10. Deepen spent \$3. How much more money did Sebastian spend than Deepen?



A.
$$15 + X = 63$$

B.
$$8 - 3 = X$$



A. Maya has 7 more pets than Paul. Paul has 3 pets. How many pets does Maya have?

B. Maya is 7 years old. Paul is 3 years old. How many years older is Maya?

C. The giraffe is 5 feet taller than the monkey.

D. Today is warmer than yesterday.

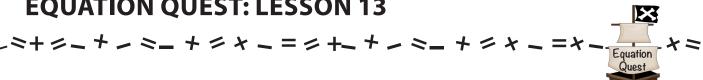
E. The shark swims faster than the dolphin.

5

- A. Laura played in 3 more games than Sarah.
- B. Margo planted 7 more flowers than April.
- C. The baker baked 10 fewer cookies than brownies.

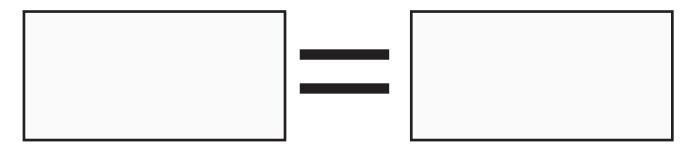
JOLLY ROGER REVIEW: LESSON 12

Angel ate 4 cookies. Ray ate 11 cookies. How many fewer cookies did Angel eat than Ray?

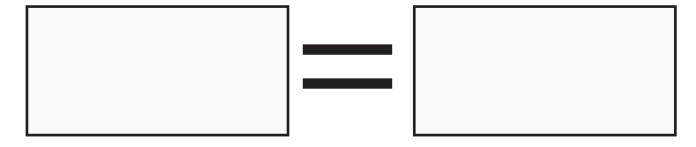




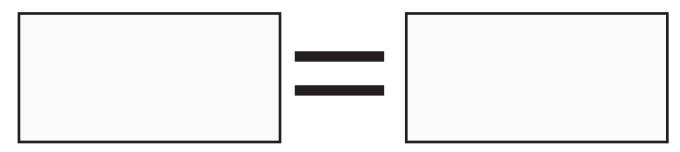
A.
$$6-4=$$



B.
$$_{--} = 6 - 2$$

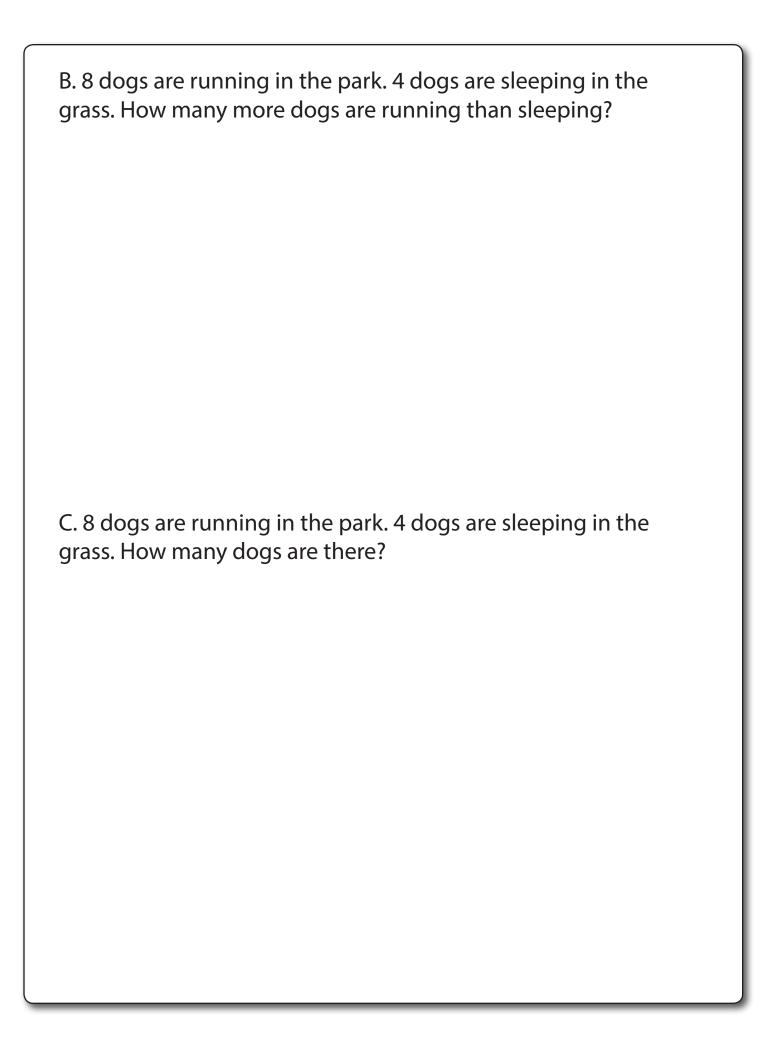


C.
$$4 + _{\underline{}} = 7$$





A. Stan has seen 3 fewer movies than Joe	<u></u> 2y.
--	-------------

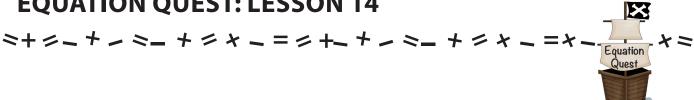


- A. How much less money did Suzanne spend than Ayesha?
- B. Anna ate more candy than Jeremiah.

C. How many more apples did Mr. Thomas buy than bananas?

JOLLY ROGER REVIEW: LESSON 13

Nevaeh bought glue for 75¢ and a ruler for 35¢. How much more did the glue cost than the ruler?

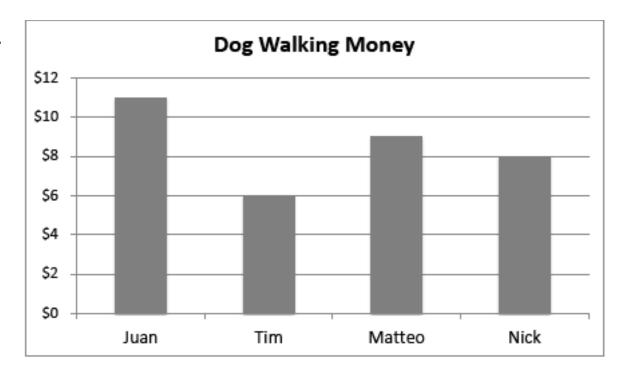


A.
$$24 + X = 61$$

B.
$$16 - 9 = X$$

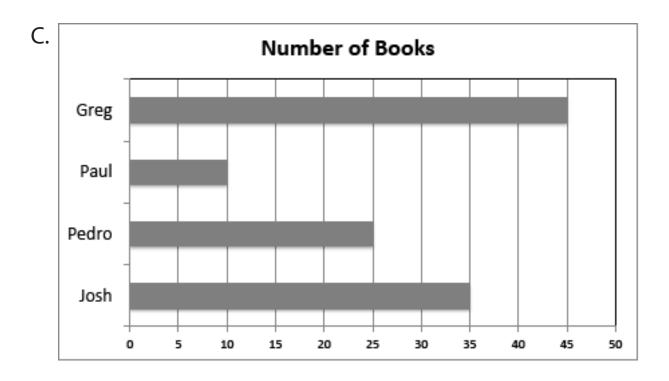


A.



How much less money did Tim earn than Juan?

B. The monkey ate 26 bananas. The gorilla ate 18 bananas. Each banana was 7 inches long. How many fewer bananas did the gorilla eat?

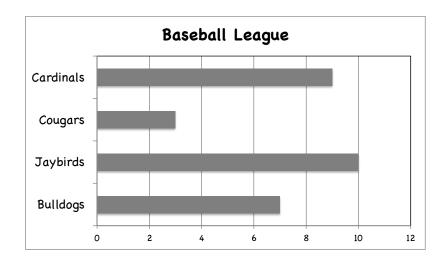


This graph shows the number of books some students have read. How many books have Josh and Pedro read?

A. How much taller is Cordell than Will?

- B. Katie has 7 fewer cats than dogs.
- C. The ship is 120 feet longer than the boat.

JOLLY ROGER REVIEW: LESSON 14



How many more games did the Bulldogs win than the Cougars?

A.
$$X - 10 = 42$$

B.
$$X - 9 = 12$$

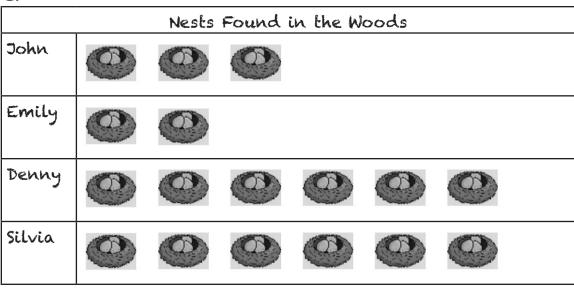
C.
$$X = 52 - 40$$



A. Montel read 78 pages of his book yesterday. He read for 3 hours altogether. If he read 39 pages in the morning, how many pages did he read in the afternoon?

B. Jamie caught 15 butterflies. Maria caught 38 butterflies. There were 106 flowers in the garden. How many fewer butterflies did Jamie catch than Maria?

C.



How many nests did Silvia, Denny, and John find?



- A. Paula found 25 more frogs than Polly.
- B. The table was 2 feet longer than the chair.

C. Marcos had \$26 less than Billy.

JOLLY ROGER REVIEW: LESSON 15

Lin has 29 stickers. Scarlet has 54 stickers. Each girl is 9 years old. How many stickers do Lin and Scarlet have altogether?

A.
$$14 + X = 98$$

B.
$$X = 17 - 9$$

C.
$$10 + X = 44$$



A. The band has 25 trumpet players, 12 tuba players, and 18 trombone players. How many more trumpet players than tuba players are in the band?

B. The band has 25 trumpet players, 12 tuba players, and 18 trombone players. How many fewer trombone players than trumpet players are in the band?

C. The band has 25 trumpet players, 12 tuba players, and 18 trombone players. What is the total number of trumpet and trombone players?



A.
$$8 + 8 =$$

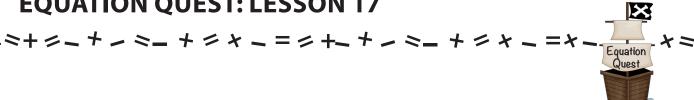
B.
$$7 + 4 =$$

D.
$$0 + 5 =$$

E.
$$2 + 6 =$$

JOLLY ROGER REVIEW: LESSON 16

Lincoln made \$45 at the lemonade stand. Truman made \$56 at the bake sale. How much less money did Lincoln make than Truman?

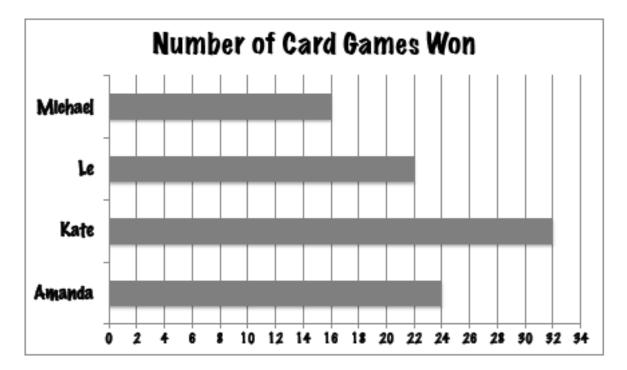


A.
$$X - 6 = 3$$

B.
$$8 - X = 2$$



A. A s	quirrel	colle	ected	74 nu	ts. A	chipm	unk	coll	ected	17	nuts.
How	many f	ewer	nuts	did th	ne ch	ipmun	k co	llect	?		



B. How many more card games did Kate win than Michael?

C. How many fewer card games did Le win than Amanda?

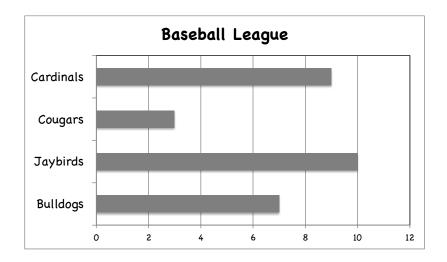
38

JOLLY ROGER REVIEW: LESSON 17

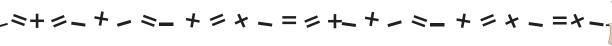
- A. The sea captain sailed 60 fewer miles on Monday than Tuesday.
- B. In April it rained 13 more inches than in May.

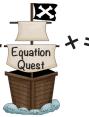
C. The rope is 72 inches longer than the string.

JOLLY ROGER REVIEW: LESSON 17



How many fewer games did the Bulldogs win than the Jaybirds?





A.
$$9 - X = 4$$

B.
$$X - 6 = 4$$



A. Vanessa spent a total of \$97 at the mall. She bought a purse and a pair of shoes. If the pair of shoes costs \$42, how much did the purse cost?

B. Patrick has 35 baseball cards. Josh has 26 baseball cards. Both boys have collected baseball cards for 3 years. How many more baseball cards does Patrick have?

C. Julian went to the store and spent \$65. Brooke went to the store and spent \$29. How much less money did Brooke spend than Julian?



D. 188

<u>- 86</u>

8 4

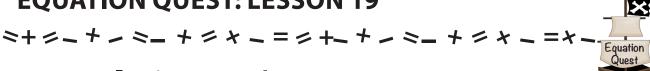
C.
$$14 - 8 =$$

JOLLY ROGER REVIEW: LESSON 18

Total Birds Seen at Camp on the Second Day				
Robins	99999			
Crows				
Bluebirds				
Woodpeckers	4444			

Each stands for 5 birds.

On the first day of camp, campers saw 10 crows. On the second day, they saw some more. How many crows did the campers see on the first and second days?

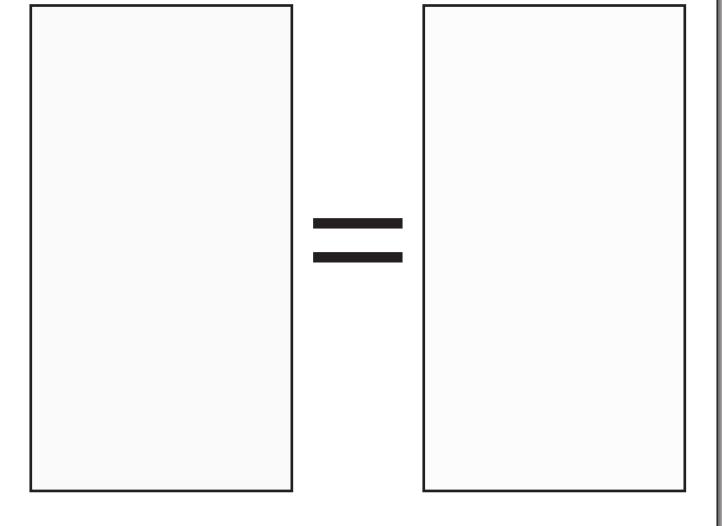




A.
$$6 - X = 3$$

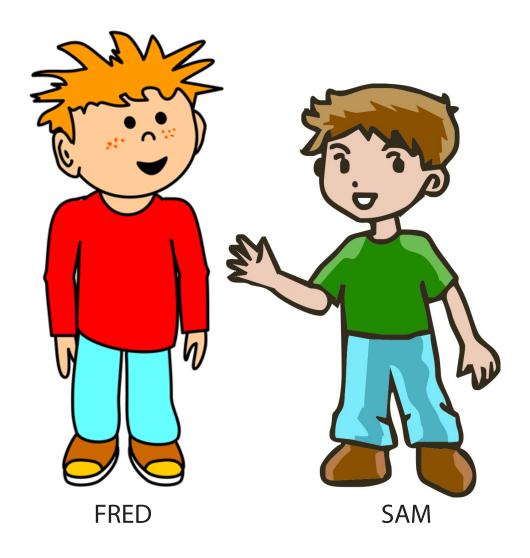
B.
$$9 + 4 = X$$

C.
$$X - 5 = 8$$





A. Fred had 2 crayons. Then, his friend Sam gave him 5 more crayons. Now, Fred has 7 crayons.



B. Harry had 9 crayons. Then, he gave 3 crayons to Will. Now, Harry has 6 crayons.



C. There were 9 apples on the apple tree. Then, 5 apples fell off. How many apples are on the tree now?



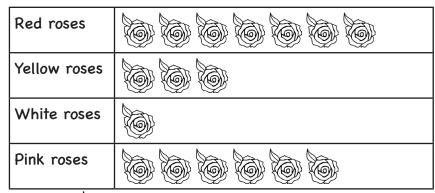
E. 70 - 25

F. 14 + 68

C.
$$14 - 5 =$$

D.
$$9 + 8 =$$

JOLLY ROGER REVIEW: LESSON 19



Each stands for 5 roses.

How many more red roses are there than yellow roses?

A.
$$5 + X = 19$$

B.
$$43 = X + 21$$

C.
$$X = 47 + 47$$



A. Will had 4 pennies. Later that day, he found 5 more pennies. How many pennies does Will have now?

B. Jayda had 7 lollipops. Then, she gave 3 lollipops to Lexie. How many lollipops does she have now?

C.	Will had more pennies than Stan.
D.	Chris had 6 more trains than Bill.
E.	Bill gave 6 more trains to Chris.
F.	Jackson ate 7 more candy bars than Rebecca.
G.	Rebecca gave Jackson 7 more candy bars.
Н.	Richard gave Jean 4 more toy cars.
l.	Jean had 4 more toy cars than Richard.



A.
$$7 - 7 =$$

B.
$$2 + 2 =$$

C.
$$10 - 5 =$$

E.
$$16 - 8 =$$

JOLLY ROGER REVIEW: LESSON 20

Mia had \$9. Then, her aunt gave her another \$5 for pet sitting. How much money does Mia have now?

A.
$$X - 26 = 50$$

B.
$$92 - X = 80$$

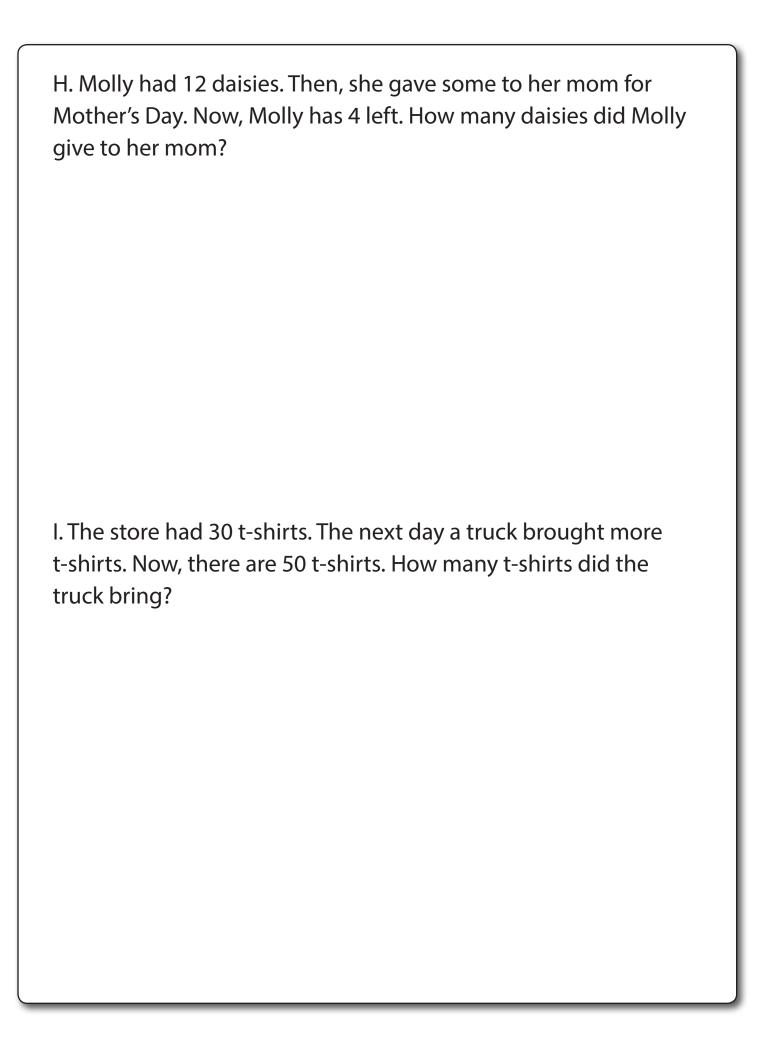
C.
$$31 + X = 55$$



- A. 5 more cats than dogs.
- B. 5 more girls than boys.
- C. Molly had 4 daisies. Then, her mom gave her 3 more daisies. How many daisies does Molly have now?

More Sentences

- D. Brody has 7 more books than video games.
 - Then, Andrew bought 5 more baseball cards.
- E. Then, Ashley's friend gave her 6 more shirts.
 - Nancy watched 7 more movies than Megan.
- F. Then, Katie got 2 more dolls for her birthday.
 - Sally grew 5 more flowers than Mark.
- G. Then, Jane's dad gave her 5 more coins.
 - Regan walked 4 more miles than Bethany.





A.
$$12 - 6 =$$

B.
$$13 - 9 =$$

D.
$$2 + 7 = _{__}$$

E.
$$8 + 6 =$$

JOLLY ROGER REVIEW: LESSON 21

Andrea made \$16 and then she bought a book for her baby brother. The book costs \$9. How much money does Andrea have left?



A.
$$X + 19 = 35$$

B.
$$62 = X + 19$$

C.
$$X - 25 = 48$$



A. There were 5 kids in the art room. After lunch, more kids came to the art room. Now there are 8 kids in the art room. How many more kids came?

B. Paul has a fish tank with 5 crabs. He put 3 plants in the fish tank. Then, he put some more crabs in the tank. Now there are 9 crabs. How many crabs did Paul put in the tank?

C. Pablo had 5 library books. After school, he returned 2 books and checked out 4 movies. How many books does Pablo have now?



A.
$$9 + 7 =$$

B.
$$14 - 6 =$$

C.
$$9 - 7 =$$

E.
$$5 + 8 =$$

JOLLY ROGER REVIEW: LESSON 22

Type of Cookies	Number of Cookies Shelby Baked
Chocolate Chip	14
Oatmeal Raisin	24
Peanut Butter	26

Shelby baked some peanut butter cookies. She dropped 8 of them while walking to the bake sale. How many peanut butter cookies does Shelby have left?



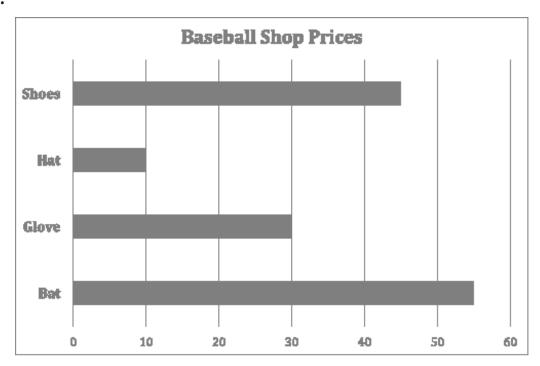
A.
$$68 - X = 41$$

B.
$$68 + X = 90$$

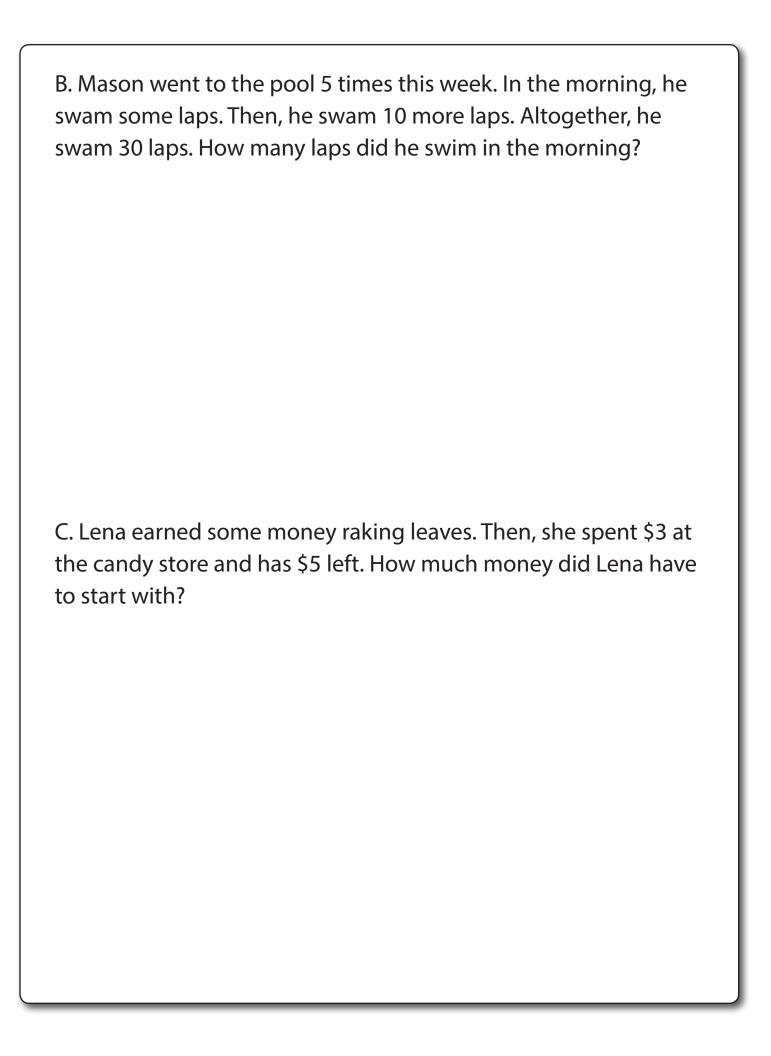
C.
$$X - 16 = 20$$



A.



Kristi bought shoes. Now she has \$97. How much money did Kristi have to start with?





A.
$$5 + 8 =$$

B.
$$16 - 9 =$$

C.
$$16-7=$$
 G. $39 + 39$

D.
$$1 + 2 =$$

E.
$$8 + 3 =$$

JOLLY ROGER REVIEW: LESSON 23

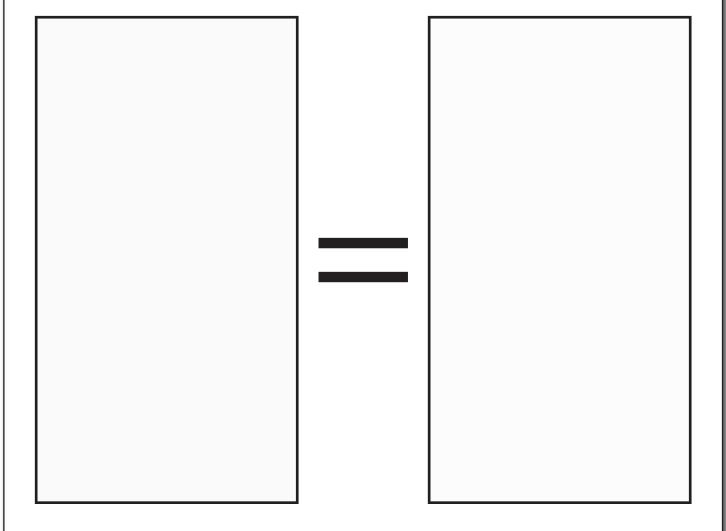
Bruno colored 16 pages in his coloring book. Then, he colored 9 more pages. The book had 90 pages. How many pages has Bruno colored?



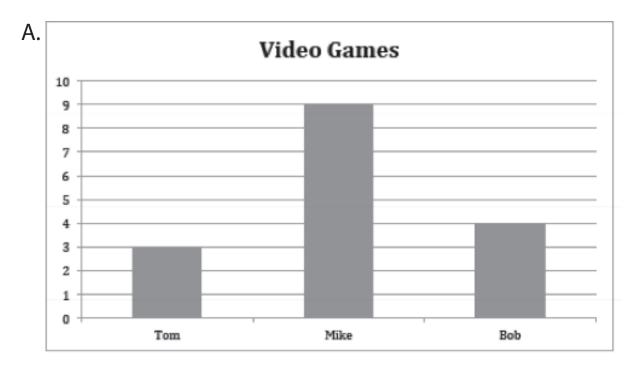


A.
$$6 + 2 = \underline{\hspace{1cm}} + 1$$

B.
$$5 + 4 = 6 +$$

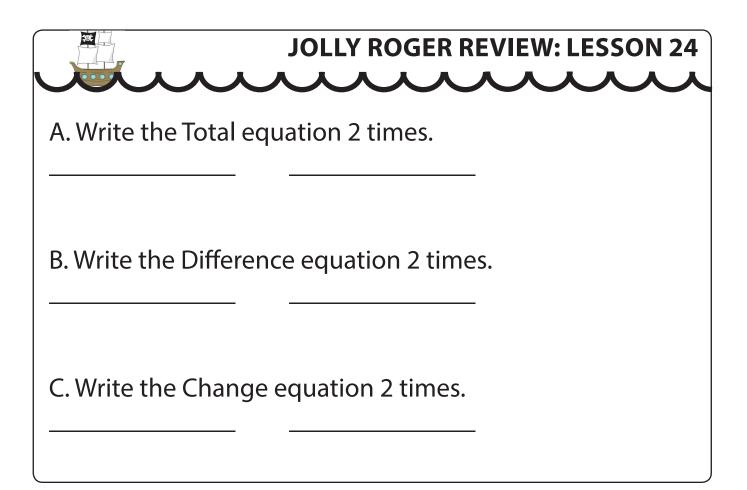




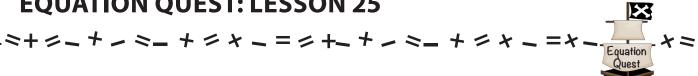


Mike played video games in the morning. Later that day, he played 15 sports games. How many games has Mike played now?

B. There were some puppies at the pet store. A family came to the pet store and bought 1 puppy. Now, there are 4 puppies left. How many puppies were at the pet store to start with?	
C. Alma had a party. She invited 17 girls to the party. She invited 9 boys. How many more girls did she invite?	



The store sells 12 yellow shirts, 9 blue shirts, and 25 green shirts. Each shirt costs \$9. How many shirts are for sale?

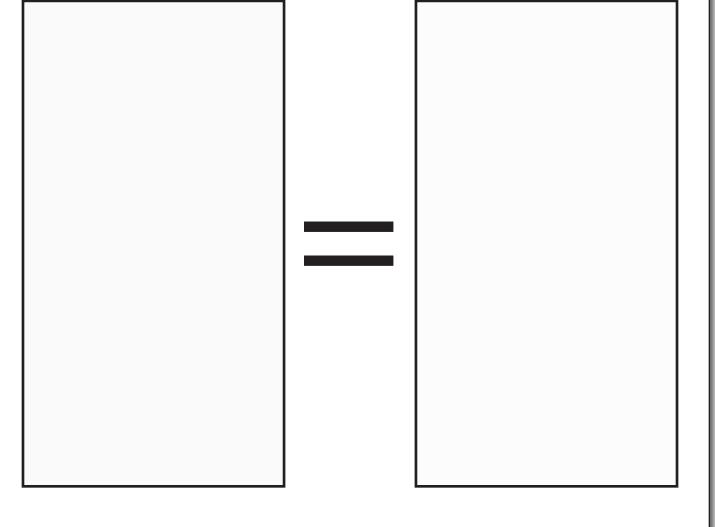




A.
$$2 + X = 5 + 5$$

B.
$$X + 4 = 1 + 6$$

C.
$$2+2+2=X+4$$





A. Malik had 2 peppers. Then, he bought 3 peppers at the store, and his friend gave him 4 peppers from his garden. How many peppers does Malik have now?

B. Min had \$6. On Saturday, she earned \$4 for doing chores. Then, she spent \$7 at the movies. How much money does Min have left?

C. Gina spent \$34 at the grocery store. She spent \$19 on fruit. Gina spent the rest on vegetables. How much did Gina spend on vegetables?



A.
$$9 + 2 =$$

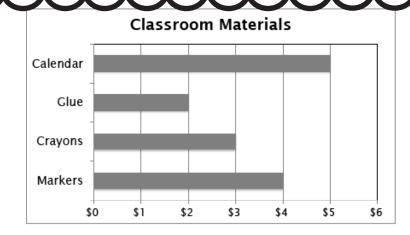
B.
$$14 - 5 =$$

C.
$$9 - 2 =$$

D.
$$8 + 8 =$$

E.
$$6 + 7 =$$

JOLLY ROGER REVIEW: LESSON 25



A teacher had \$15. Then she bought crayons and markers. How much money does she have now?



A.
$$19 - X = 15$$

B.
$$20 + 7 + X = 45$$

C.
$$X + 27 = 66$$



A. There were 41 kids at the lunch table. Then, 9 kids got up to buy milk and 13 kids cleared their trays. How many kids are at the table now?

B. Marta planted 34 lettuce plants in her garden. Then, she planted 13 more lettuce plants. One night a rabbit ate 22 of her lettuce plants. How many lettuce plants does Marta have left?

C.

-	Toy Prices
Video	
Blocks	757 710 710
Doll House	

Each stands for \$5.

Mariana had \$20 in her piggy bank. Her grandma gave her \$20 for her birthday. Then, she bought blocks. How much money does Mariana have now?



A.
$$6 + 7 =$$

F. 90 - 64

B.
$$9 + 6 =$$

C. 13 - 6 =

G. 27 + 37

D.
$$6 + 5 =$$

E. 15 - 6 =____

JOLLY ROGER REVIEW: LESSON 26

Cans of Paint that Sally bought				
White				
Red				
Green				
Blue				

Each stands for 10 cans.

Sally bought some blue cans of paint. On the walk home, she dropped 2 blue cans of paint. Then, her friend Molly gave her 18 more blue cans of paint. How many blue cans of paint does Sally have now?



A.
$$X - 2 = 4 + 3$$

B.
$$8 - X = 10 - 7$$

C.
$$6 - X = 3$$



A. Carl bought 7 hot dogs before the baseball game. Then, he bought 4 more hot dogs and 8 hamburgers during the game. After the game, he bought 3 more hot dogs. How many hot dogs has Carl bought?

B.

	Baseball Cards
Hank	00000
Troy	0000
Ava	

Each (stands for 1 baseball card.

The graph shows how many baseball cards Hank had on Monday. Greg gave him 19 more cards on Tuesday. How many baseball cards does Hank have now?

C. Amari had some money. For his birthday, he got \$15 and 3 games. Now, he has \$32. How much money did Amari have to start with?



A.
$$11 - 3 =$$

F. 124 - 33

B.
$$3 + 9 =$$

C. 7 - 3 =____

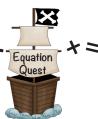
G. 65 + 57

E. 3 + 3 =____

JOLLY ROGER REVIEW: LESSON 27

Color of Race Car	Number of Race Cars to Start
Blue	12
Red	36
Green	56

Renata had some green race cars. Then, she gave 17 green race cars to her baby brother. How many green race cars does Renata have now?

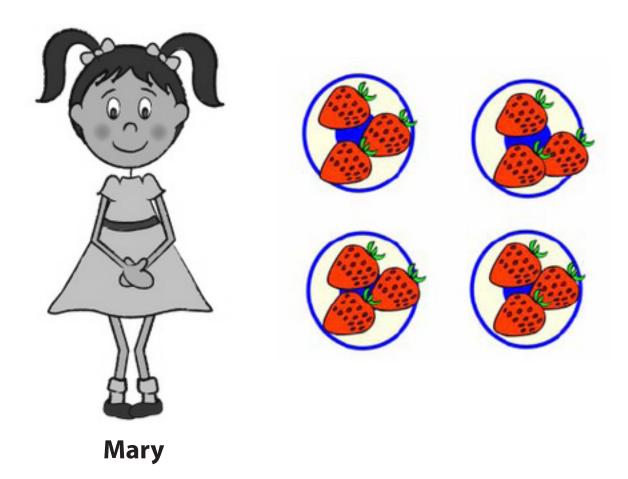


A.
$$3 \times 5 = X$$

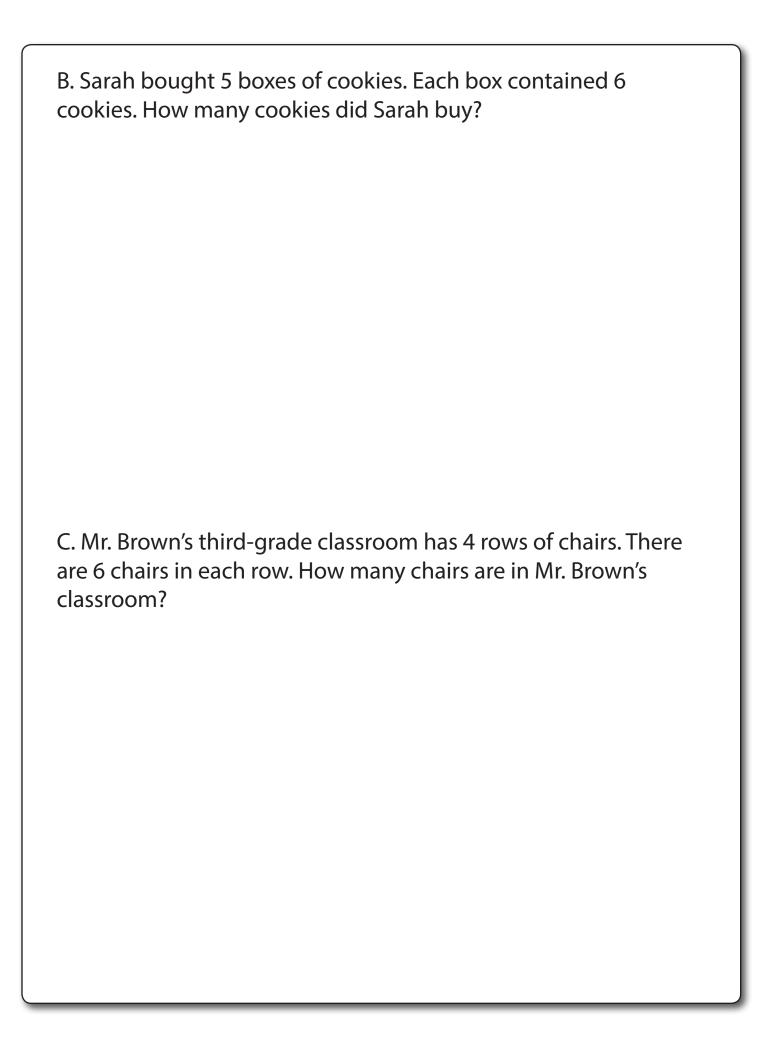
B.
$$6 \times 2 = X$$



A. Mary has 4 bowls of strawberries. She has 3 strawberries in each bowl. How many strawberries does Mary have in all?



 $GR \times N = P$





A.
$$2 \times 2 =$$

F.
$$2 \times 6 =$$

B.
$$2 \times 4 =$$

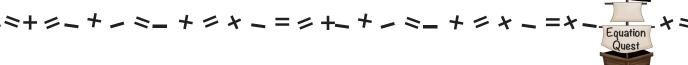
C.
$$2 \times 1 =$$

D.
$$2 \times 5 =$$

E.
$$2 \times 3 =$$

JOLLY ROGER REVIEW: LESSON 28

Meena's family eats 2 sugar cookies and 3 chocolate chip cookies every day. How many sugar cookies does her family eat in 10 days?





A.
$$4 \times 4 = X$$

B.
$$7 \times 1 = X$$



A. Richard planted vegetables in his garden. He has 5 rows of carrot, tomato, and corn plants. If there are 11 plants in each row, how many vegetables are in the garden?

Costs at	t Ice Cream Shop
Ice Cream Cone	888
Banana Split	88888
Root Beer Float	?
Hot Fudge Cake	\$\$\$\$\$

Each 💲 stands for \$1.

The graph shows the cost of desserts at an ice cream shop. If Jesus ordered a banana split 4 days in a row, how much money did he spend?

C. Juan spent \$3 at the candy store. He bought 38 pieces of candy. Then he gave some to his sister. Now, he has 22 pieces of candy. How many pieces of candy did he give away?



A.
$$3 \times 2 =$$

F.
$$3 \times 6 =$$

B.
$$3 \times 4 =$$

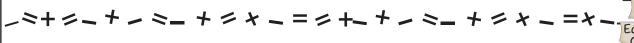
C.
$$3 \times 1 =$$

D.
$$3 \times 5 =$$

E.
$$3 \times 3 =$$

JOLLY ROGER REVIEW: LESSON 29

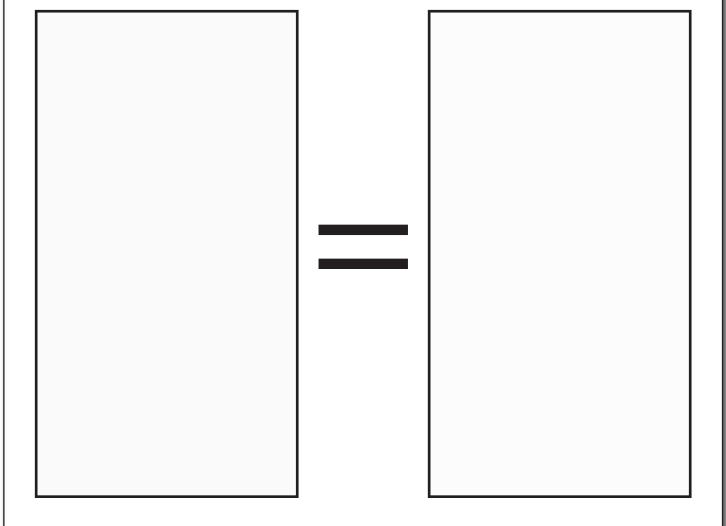
Krishma ordered 4 pizzas for a party. There were 8 pepperonis on each pizza. How many pepperonis were there altogether?





A.
$$4 \times 3 =$$

B.
$$5 \times 2 =$$

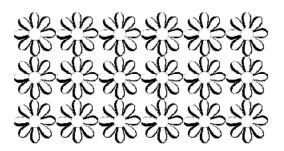




A. Dan had \$6. Then, he got \$5 from the tooth fairy. He also earned \$10 mowing lawns. How much money does he have now?

B. Students in Ms. Espitia's class made holiday cards. Ten students each added 5 stickers and 6 stamps to their cards. How many stickers were on all of the cards together?

C. The picture shows the rows of flowers in Xin's garden. If Xin picked 4 flowers in each row, how many flowers did she pick?





A.
$$4 \times 2 =$$

F.
$$4 \times 6 =$$

B.
$$4 \times 4 =$$

C.
$$4 \times 1 = _{__}$$

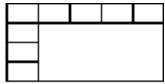
D.
$$4 \times 5 = _{__}$$

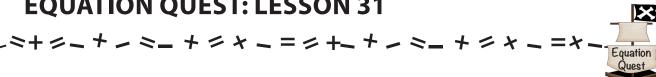
E.
$$4 \times 3 =$$

JOLLY ROGER REVIEW: LESSON 30

The picture below shows Jayda's pan of brownies.

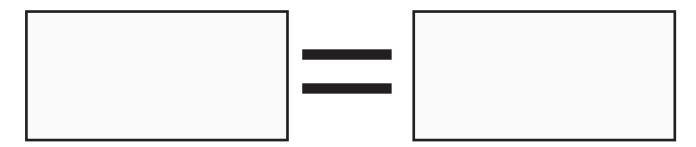
The top row of brownies has been divided into brownies of equal size. The rest of the pan also will be divided into brownies of equal size. How many brownies are in the pan?



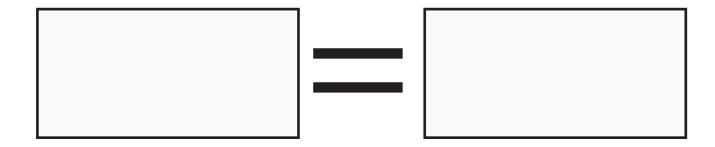




A.
$$3 \times 3 =$$

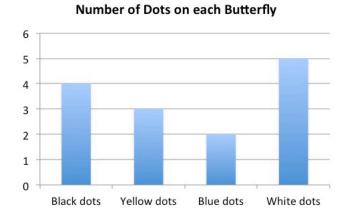


B.
$$8 \times 2 =$$

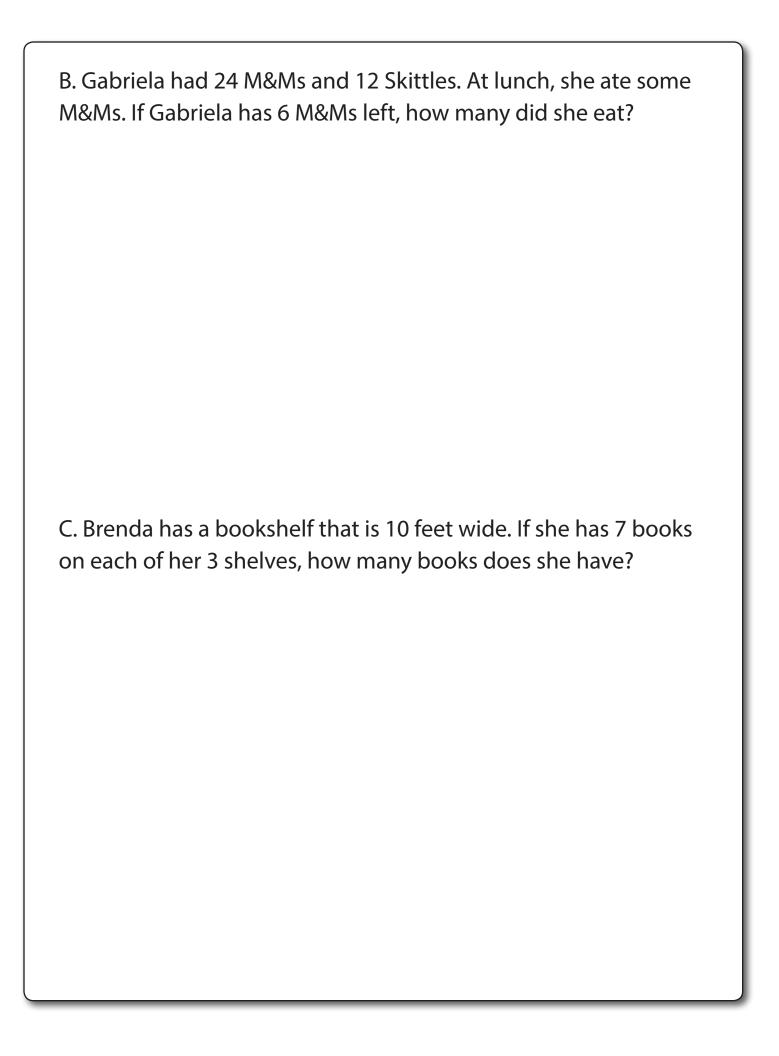




A.



If there are 7 butterflies, how many blue dots are there in all?



JOLLY ROGER REVIEW: LESSON 31
A. Write the Total equation 2 times.
B. Write the Difference equation 2 times.
C. Write the Change equation 2 times.
D. Write the Equal Groups equation 2 times.

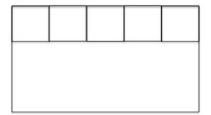
Mrs. McGuire's class is having a pie party. Mrs. McGuire bakes 5 apple pies and 6 cherry pies. If there are 4 apples on each apple pie, how many apples are there?

A.
$$9 \times 3 = X$$

B.
$$11 \times 2 = X$$



A. A model of a swimming pool is shown below. The top row of the pool has been divided into squares of equal size. The rest of the model will also be divided into squares of the same size. What is the area in square units of the swimming pool?



B. Anthony puts 5 candy bars into 7 bags. How many candy bars does Anthony have in all?

C.

Home runs		
Dan		
Eric	\Box	
Lamar		
Adam		

How many home runs did Dan, Lamar, and Adam hit?



A.
$$5 \times 2 =$$

F.
$$5 \times 6 =$$

B.
$$5 \times 4 =$$

C.
$$5 \times 1 =$$

D.
$$5 \times 5 =$$

E.
$$5 \times 3 =$$

JOLLY ROGER REVIEW: LESSON 32

A class of 12 third-grade students is preparing for the math test. Each student sharpens 2 pencils before the test. How many pencils did the students sharpen?

A.
$$4 \times X = 12$$

B.
$$X \times 2 = 6$$



A. Andrew put 12 glasses and 8 cups on a shelf. He made 4 equal rows of glasses. How many glasses are on each shelf?

B. Steven has 20 pepper slices to put into 10 tacos. He wants to put the same number of peppers into each taco. How many peppers should Steven put into each taco?

C. Phaedra practiced for the track team and ran 3 laps per minute. How many minutes did it take Phaedra to run 12 laps?		



A.
$$6 \times 2 = _{__}$$

F.
$$16 \div 4 =$$

B.
$$12 \div 4 =$$

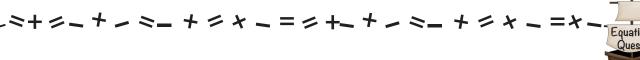
C.
$$7 \times 3 = _{__}$$

D.
$$15 \div 5 =$$

E.
$$5 \times 3 =$$

JOLLY ROGER REVIEW: LESSON 33

Dave, Jose, and Andres ate a bowl of fruit. There were 18 cherries and 4 grapes in the bowl. If each boy ate the same number of cherries, how many cherries did each boy eat?





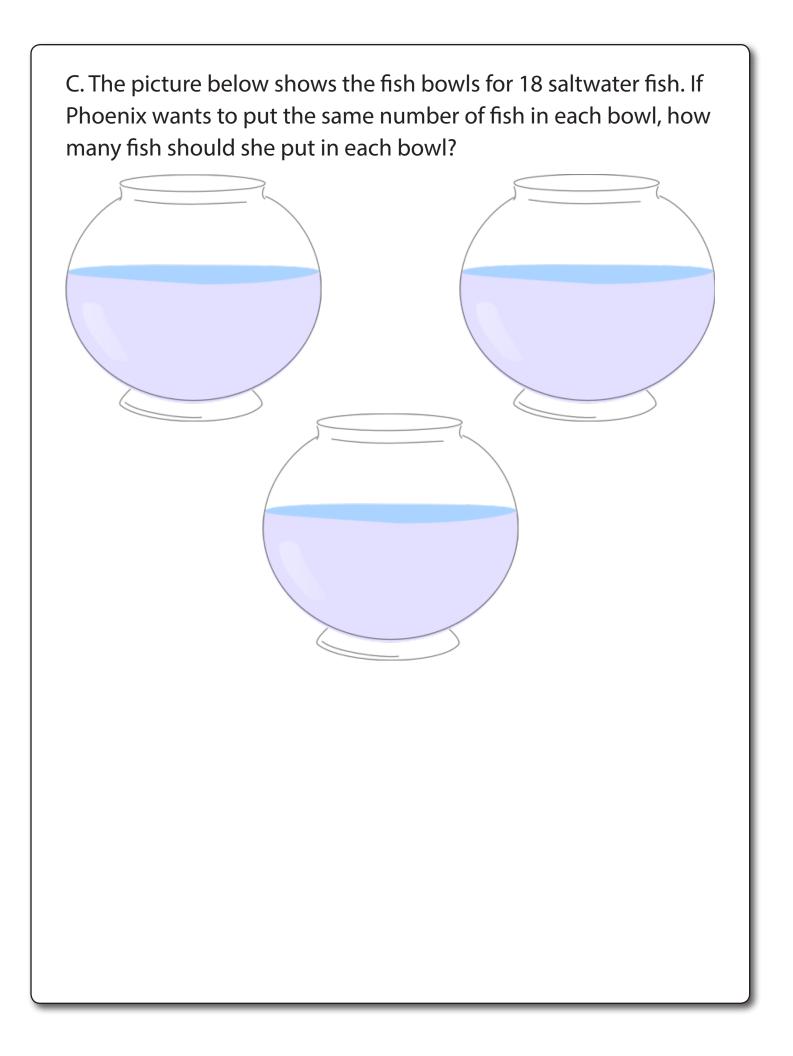
A.
$$6 \times X = 18$$

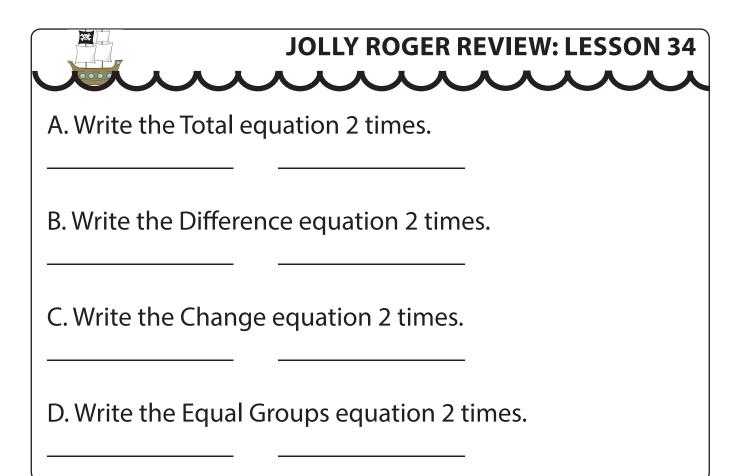
B.
$$X \times 2 = 20$$



A. Jen has 19 cookies. Annie has 4 cookies. How many more cookies does Jen have?

B. Patrick has 20 toy cars to put on 4 shelves. He wants to put the same number of toy cars on each shelf. How many toy cars should Patrick put on each shelf?





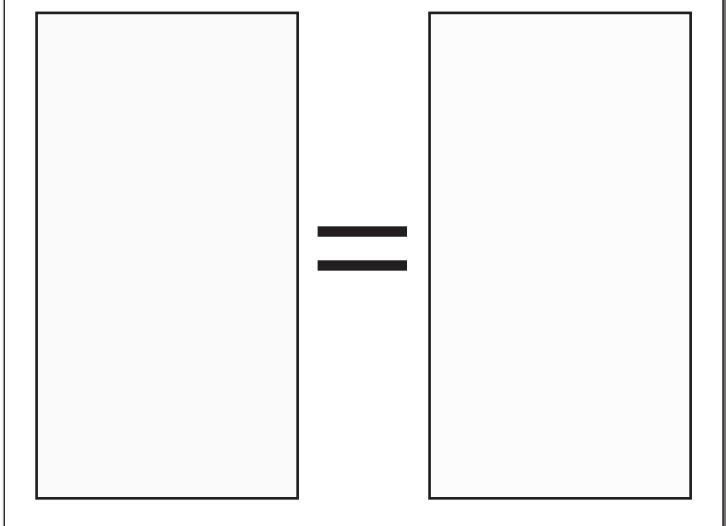
Selena bought 5 packs of crayons, 4 packs of markers, and 2 packs of stickers at the store. Selena has 20 crayons in all. If there are an equal number of crayons in each pack, how many crayons are in each pack?





A.
$$2 \times _{--} = 8$$

B.
$$5 \times _{--} = 15$$





A. In math class, 4 students split up 24 flash cards to practice their math facts. If each student took the same number of flash cards, how many cards did each student take?

B. There were 20 roses, 14 lilies, and 18 daisies in each row of the garden. If there were 5 rows of flowers in the garden, how many roses were there?

C. The picture shows the number of cupcakes Manuel bought at the store. Manuel would like to divide the cupcakes evenly between him and his friend Demetrius. How many cupcakes will each boy receive?





A.
$$10 \times 2 =$$

F.
$$8 \div 4 =$$

B.
$$20 \div 5 =$$

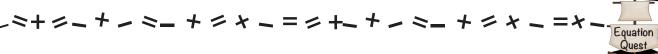
C.
$$9 \times 3 =$$

D.
$$12 \div 2 =$$

E.
$$4 \times 3 =$$

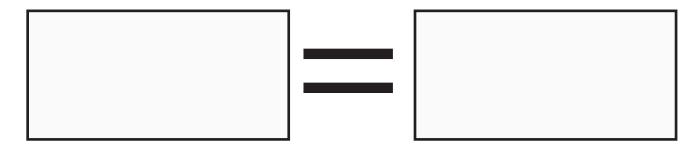
JOLLY ROGER REVIEW: LESSON 35

Destiny arranged her pink Starbursts into 5 equal groups. If she has 25 pink Starbursts, how many pink Starbursts are in each group?

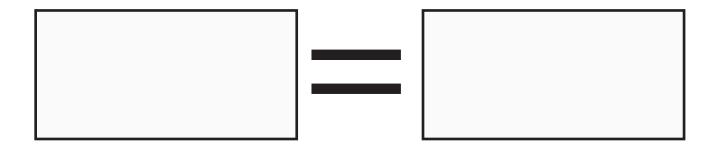




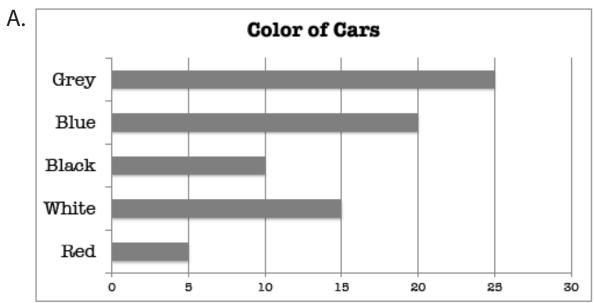
A.
$$3 \times _{--} = 15$$



B.
$$2 \times _{--} = 8$$







The graph shows the colors of cars Mila saw on her walk home on Monday. If Mila saw the same number of red cars on Tuesday and Wednesday, how many red cars did she see in all?

B. Linda bought 13 paintings. She sold 9 paintings. Then, she bought 3 more paintings. How many paintings does Linda have now?

C. The picture shows the buckets of apples Mrs. Rocha set up for bobbing for apples. Mrs. Rocha has 16 apples for bobbing. If she puts the same number of apples in each bucket, how many apples are in each bucket?





A.
$$8 \times 2 =$$

F.
$$6 \times 4 = _{__}$$

B.
$$12 \div 3 =$$

C.
$$11 \times 5 =$$

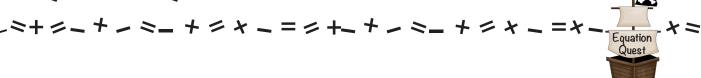
D.
$$18 \div 2 =$$

E.
$$4 \times 0 =$$

JOLLY ROGER REVIEW: LESSON 36

The graph shows the number of children who take the bus, ride in a car, and bike to school. If 2 children can sit in every seat on the bus, how many seats will the children need in all?





X

A.
$$9 \times X = 27$$

B.
$$10 \times 10 = X$$



A. Mr. Harris has \$45. He spent \$22 at the bookstore and \$13 at the post office. How much money did he spend?

B. The horses and pigs ate 44 apples. If the horses ate 32 apples, how many apples did the pigs eat?

C. Xavier had some cookies. Then, he baked 49 more cookies. Now he has 85 cookies. How many cookies did he have to start with?		



A.
$$9 \times 3 =$$

F.
$$6 \times 6 = _{__}$$

B.
$$16 \div 4 =$$

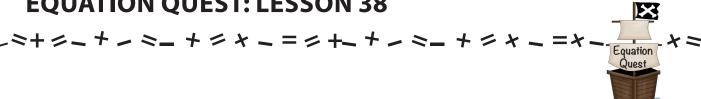
C.
$$9 \times 5 =$$

D.
$$9 \div 3 =$$

E.
$$7 \times 4 = _{__}$$

JOLLY ROGER REVIEW: LESSON 37

The ferris wheel at Six Flags has 11 seats. Each seat can hold 4 people. How many people can ride the Ferris Wheel at the same time?



A.
$$5 \times X = 25$$

B.
$$9 \times 4 = X$$



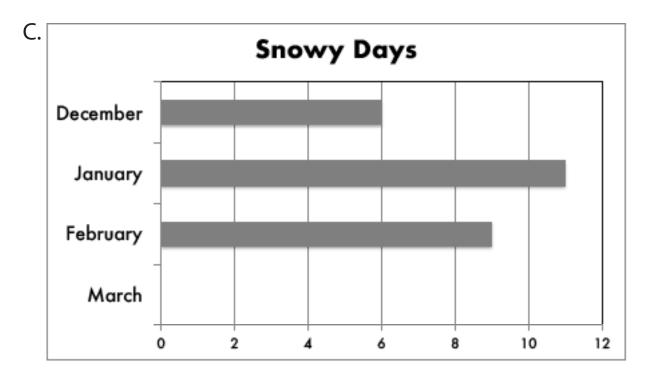
A. Anabel gave her 3 sisters and 2 brothers 6 pieces of candy each. How many pieces of candy did Anabel give her sisters?

B.

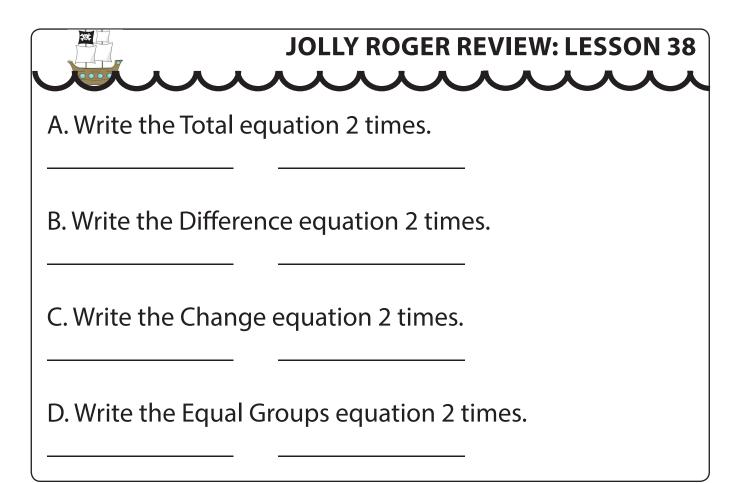
Costs at Pizza Shop		
Cheese Slice	\$ \$ \$	
Pepperoni Slice	\$\$\$\$\$	
Soda	\$ \$	
Mushroom Slice	\$\$\$\$	

Each stands for \$2.

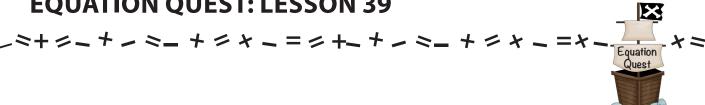
How much more does a pepperoni slice cost than a cheese slice?



How many snowy days were there in December, January, and February?



Felicia and Zach made 49 cookies for the class party. Before they brought the cookies to school, they ate 11 of the cookies. On the way to school, they dropped 6 cookies. How many cookies did Felicia and Zach bring to school?



A.
$$8 \times 3 = X$$

B.
$$X \times 3 = 18$$



A. Alicia and Kelly decided to make 24 cupcakes for their class. They started with \$29. They went to the store and bought sugar, flour, and icing for \$13. How much money do they have left?

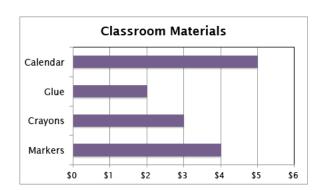
B. Mom put some jelly doughnuts on a plate. Then, Steve bought 3 more doughnuts. Now, there are 18 doughnuts. How many doughnuts were on the plate at first?

C. Diego painted a fence around his house with 4 equal sides. If Diego used 16 cans of paint in all, how many cans did he use on each side?	



- A. Write the Total equation 2 times.
- B. Write the Difference equation 2 times.
- C. Write the Change equation 2 times.
- D. Write the Equal Groups equation 2 times.

JOLLY ROGER REVIEW: LESSON 39



Kavon bought a calendar, glue, crayons, and markers. How much money did he spend?