

Example Items

Mathematics 7

Mathematics 7 Example Items are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

*The specific part of an SE that an Example Item measures is **NOT** necessarily the only part of the SE that is assessed on the ACP.* None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

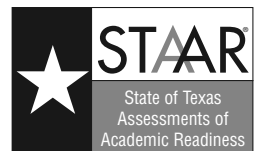
(1) Download the [Example Feedback Form](#) and email it. The form is located on the homepage of Assessment.dallasisd.org.

OR

(2) To submit directly, click “Example Feedback” **after** you login to the [Assessment website](#).

First Semester
2017–2018
Code #: 1071

STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS



Inches

LINEAR EQUATIONS

Slope-intercept form

$$y = mx + b$$

Constant of proportionality

$$k = \frac{y}{x}$$

CIRCUMFERENCE

Circle

$$C = 2\pi r$$

or

$$C = \pi d$$

AREA

Triangle

$$A = \frac{1}{2}bh$$

Rectangle or parallelogram

$$A = bh$$

Trapezoid

$$A = \frac{1}{2}(b_1 + b_2)h$$

Circle

$$A = \pi r^2$$

VOLUME

Prism

$$V = Bh$$

Pyramid

$$V = \frac{1}{3}Bh$$

ADDITIONAL INFORMATION

Pi

$$\pi \approx 3.14$$

or

$$\pi \approx \frac{22}{7}$$

Distance

$$d = rt$$

Simple interest

$$I = Prt$$

Compound interest

$$A = P(1 + r)^t$$

0

1

2

3

4

5

6

7

8

STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS



LENGTH

Customary

1 mile (mi) = 1,760 yards (yd)

1 yard (yd) = 3 feet (ft)

1 foot (ft) = 12 inches (in.)

Metric

1 kilometer (km) = 1,000 meters (m)

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary

1 gallon (gal) = 4 quarts (qt)

1 quart (qt) = 2 pints (pt)

1 pint (pt) = 2 cups (c)

1 cup (c) = 8 fluid ounces (fl oz)

Metric

1 liter (L) = 1,000 milliliters (mL)

WEIGHT AND MASS

Customary

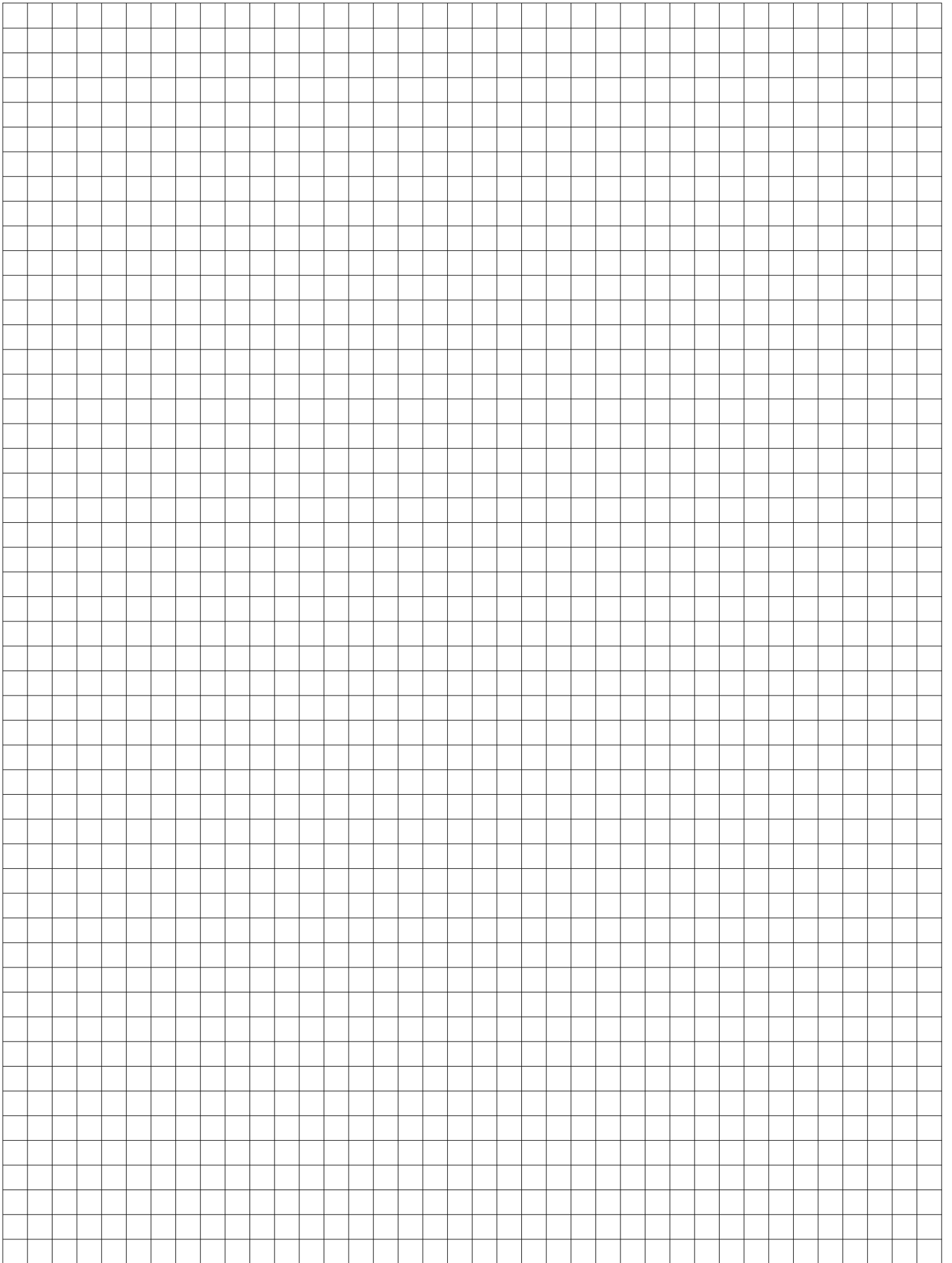
1 ton (T) = 2,000 pounds (lb)

1 pound (lb) = 16 ounces (oz)

Metric

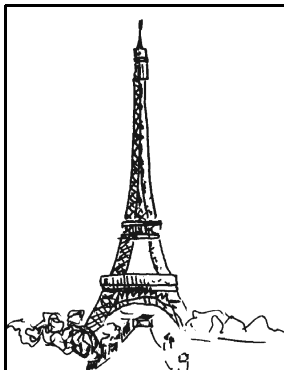
1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)



EXAMPLE ITEMS Mathematics 7, Sem 1

1 A painting of the Eiffel Tower has a length of 20 inches and a width of 14 inches.



The painting is also available as a postcard that is 6 inches long. If the painting and postcard are proportional, what is the width of the postcard, in inches?

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

					.		
(+)	(0)	(0)	(0)	(0)		(0)	(0)
(-)	(1)	(1)	(1)	(1)		(1)	(1)
	(2)	(2)	(2)	(2)		(2)	(2)
	(3)	(3)	(3)	(3)		(3)	(3)
	(4)	(4)	(4)	(4)		(4)	(4)
	(5)	(5)	(5)	(5)		(5)	(5)
	(6)	(6)	(6)	(6)		(6)	(6)
	(7)	(7)	(7)	(7)		(7)	(7)
	(8)	(8)	(8)	(8)		(8)	(8)
	(9)	(9)	(9)	(9)		(9)	(9)

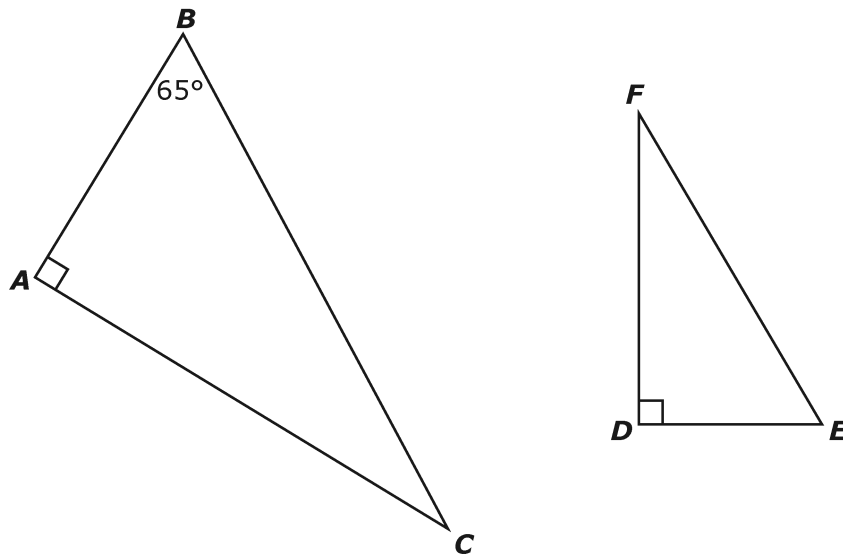
2 Last year, the enrollment at Cullins MS was 400 students. This year, the enrollment is 480. What is the percent increase in the number of students?

- A 120%
- B 80%
- C 20%
- D 17%

EXAMPLE ITEMS Mathematics 7, Sem 1

3

Triangle ABC is similar to triangle DEF .



Which is **not** true about $\triangle ABC$ and $\triangle DEF$?

A The measure of $\angle E = 65^\circ$.

B The measure of $\angle F = 25^\circ$.

C $\frac{AB}{DE} = \frac{CB}{FE}$

D $\frac{AC}{AB} = \frac{DF}{EF}$

4

When the stock market opened on Monday morning, a stock was valued at \$42.50. The value of that stock increased by the same amount each day for the next three days. After three days, the value of the stock was \$50.00. Which equation is used to find x , the amount the stock rose in value each day?

A $50 = 42.50 - 3x$

B $50 = 3x$

C $50 = 42.50 + 3x$

D $50 = 42.5x$

EXAMPLE ITEMS Mathematics 7, Sem 1

- 5 Alvin is cooking dinner for his family. He purchases 7.2 pounds of shrimp for \$36.00. What is the price per pound of the shrimp?

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9

- 6 The table shows the number of bags of popcorn recently sold.

Popcorn Type	Plain	Salted	Buttered
Number of bags of popcorn sold	16	20	64

Popcorn is available in small, medium, large, and extra-large sizes. If an equal number of each size is sold, what is the probability that the next bag sold is a large, buttered popcorn based on the table?

- A $\frac{1}{4}$
- B $\frac{1}{16}$
- C $\frac{4}{25}$
- D $\frac{16}{25}$

EXAMPLE ITEMS Mathematics 7, Sem 1

- 7** In a survey, 102 students were asked to pick their favorite sport. The results of the survey are displayed in the table.

Sport	Number of Students
Football	42
Baseball	27
Basketball	21
Soccer	12

If 10,000 students are surveyed, approximately how many students will choose baseball as their favorite sport?

- A** 2,647
B 2,700
C 2,754
D 3,000
- 8** Sarah is preparing for a 5k run next month. She monitors her water intake to make sure she stays fully hydrated. The table shows the total amount of water she drank while training for the race.

Day, x	2	4	6	8
Quarts of Water, y	1.5	3	4.5	6

Based on the data in the table, what is the constant rate of change in the number of quarts of water Sarah drinks per day?

- A** 3
B 2
C 1.5
D 0.75
- 9** Ashlee and her friends went on a road trip. It took them 3 hours to drive 105 miles. What is the constant of proportionality that relates y , the number of miles they drove, to x the number of hours it took them to reach their destination?

- A** 21.3
B 33
C 35
D 102

EXAMPLE ITEMS Mathematics 7, Sem 1

10

Marcella's receipt from Freehorn Sporting Goods is shown.

Freehorn Sporting Goods 1707 Sportsway Dallas, Texas	
Shoes	59.99
Shorts	11.99
Jersey	<u>18.99</u>
Tax ($6\frac{1}{2}\%$)	
Total	

If the sales tax rate is $6\frac{1}{2}\%$, how much sales tax did Marcella pay?

- A \$5.91
- B \$6.50
- C \$90.97
- D \$96.88

11

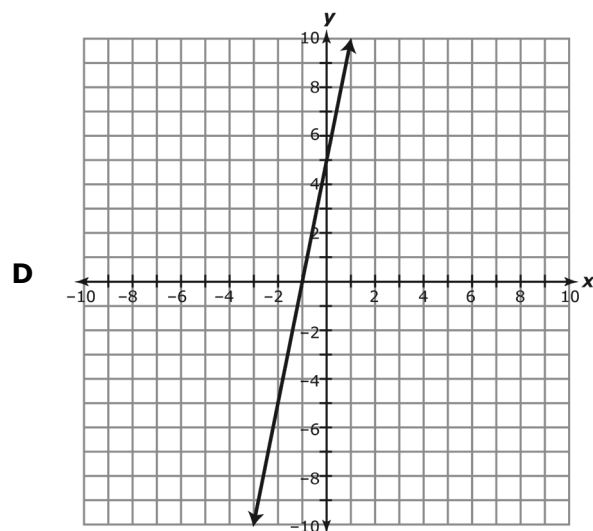
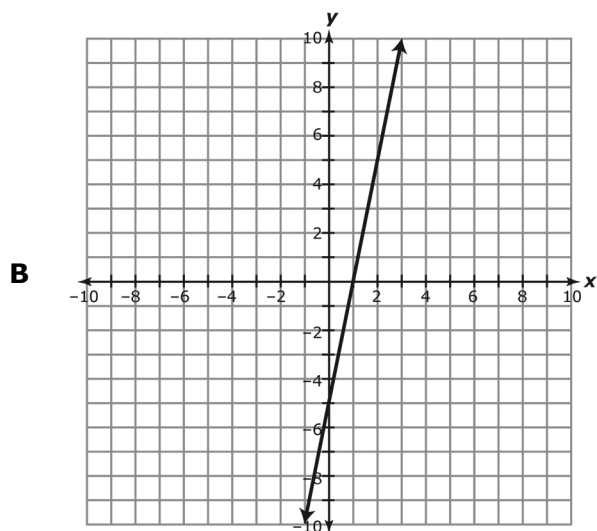
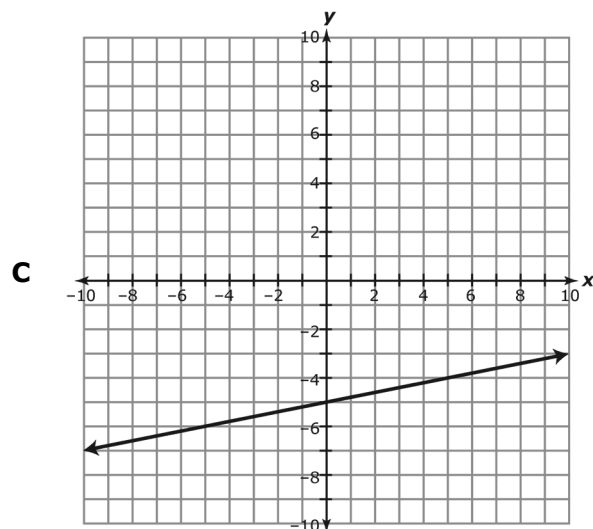
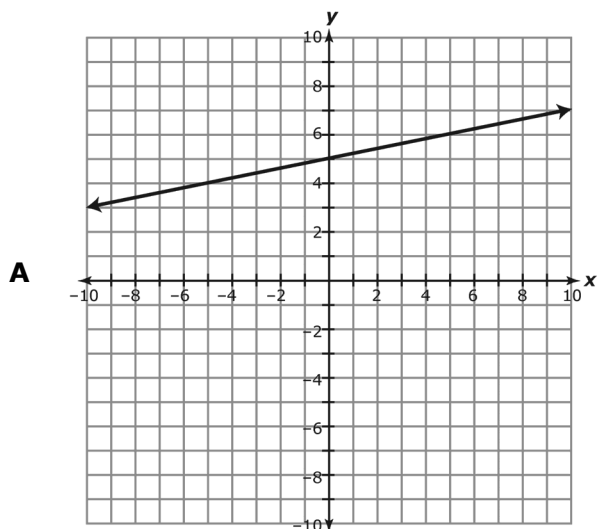
Andres needs to save \$97.50 for the seventh grade field trip. He has 15 weeks to save the money. If he saves the same amount of money each week, how much money must Andres save each week?

					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

EXAMPLE ITEMS Mathematics 7, Sem 1

12 Which graph represents the equation $y = \frac{1}{5}x - 5$?



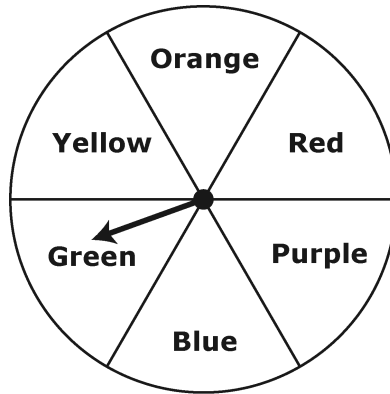
13 What is the solution set to the inequality $-2x + 7 < 5$?

- A** $x < -6$
- B** $x > -6$
- C** $x < 1$
- D** $x > 1$

EXAMPLE ITEMS Mathematics 7, Sem 1

14

Tim has a spinner with six congruent sections labeled as shown.



If Tim spins the spinner 300 times, about how many times will it land on green?

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.

					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9

15

Edward participated in the 50-yard dash at the district track meet. If 1 meter \approx 1.1 yards, approximately how many meters did Edward run?

- A 0.022
- B 45.5
- C 48.9
- D 55

EXAMPLE ITEMS Mathematics 7, Sem 1

- 16 LaToya is going to lunch with her friends. She orders one item from each column of the menu shown.

Lunch Menu

Main Dish	Vegetable	Side
Pasta	Corn	Soup
Fish	Carrots	Salad
Chicken	Sweet Potato	
Beef	Green bean	

What is the probability that LaToya orders pasta with a sweet potato and a salad for lunch?

- A $\frac{1}{32}$
- B $\frac{9}{32}$
- C $\frac{3}{10}$
- D $\frac{1}{3}$

- 17 John participated a walkathon for his church. He received a pledge from his grandfather. The table shows the relationship between the number of miles John walked and the amount his grandfather pledged.

Number of Miles, m	1	2	3	4	5
Amount Pledged, p	\$31.50	\$33.00	\$34.50	\$36.00	\$37.50

Based on the information in the table, which equation represents the relationship between p , the amount pledged, and m , the number of miles John walked?

- A $p = 1.50m - 30$
- B $p = 1.50m + 30$
- C $p = 30m - 1.50$
- D $p = 30m + 1.50$

EXAMPLE ITEMS Mathematics 7, Sem 1

- 18** Which situation is best represented by the equation $5x + 13 = 48$?
- A** Diego has 13 baseball cards. If he buys 5 new baseball cards each week, how many weeks, x , will it take for Diego to have 48 baseball cards?
 - B** Diego has 48 baseball cards. After Diego gives 13 baseball cards to each person at his birthday party, he will have 5 baseball cards remaining. How many people, x , were at Diego's birthday party?
 - C** Diego has 5 baseball cards. If he buys 13 new baseball cards each week, how many weeks, x , will it take for Diego to have 48 baseball cards?
 - D** Diego has 13 baseball cards. After Diego gives 5 baseball cards to each person at his birthday party, he will have 48 baseball cards remaining. How many people, x , were at Diego's birthday party?

EXAMPLE ITEMS Mathematics 7 Key, Sem 1

Item#	Key	SE	SE Justification
1	4.2	7.5C	Solve mathematical and real-world problems involving similar shape and scale drawings.
2	C	7.4D	Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.
3	D	7.5A	Generalize the critical attributes of similarity, including ratios within and between similar shapes.
4	C	7.10A	Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.
5	5.00	7.4B	Calculate unit rates from rates in real-world problems.
6	C	7.6C	Make predictions using experimental data for compound events.
7	A	7.6C	Make predictions and determine solutions using experimental data for simple and compound events.
8	D	7.4A	Represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$.
9	C	7.4C	Determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems.
10	A	7.13A	Calculate the sales tax for a given purchase.
11	6.50	7.3B	Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
12	C	7.7	Represent linear relationships using graphs.
13	D	7.11A	Solve a one-variable, two-step inequality.
14	50	7.6H	Solve problems using qualitative and quantitative predictions and comparisons from simple experiments.
15	B	7.4E	Convert between measurement systems, including the use of proportions and the use of unit rates.
16	A	7.6I	Determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.
17	B	7.7	Represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.
18	A	7.10C	Write a corresponding real-world problem given a one-variable, two-step equation or inequality.