

Mathematics Grade 6 Unit 12: Trip Investigation 2012-2013



- 1 Sarah lives 7.425 blocks away from her middle school. Which fraction represents the distance from Sarah's house to her school?
- A $7\frac{4}{25}$ blocks
 - B $7\frac{4}{17}$ blocks
 - C $7\frac{17}{40}$ blocks
 - D $7\frac{2}{5}$ blocks
- 2 On a recent trip, Carol's car used $9\frac{21}{24}$ of a tank of gasoline. Which decimal also represents this amount?
- F $9.1\overline{33}$ tank of gasoline
 - G 9.2124 tank of gasoline
 - H 9.875 tank of gasoline
 - J $10.1\overline{33}$ tank of gasoline
- 3 Mr. Samuel took his wife and family out to eat for dinner. The meal for the family came to \$55.95. There was an additional amount for the tax in the amount of \$4.61. He also left a tip of \$10.90. If Mr. Samuel paid using a \$100 bill, how much change should he have received?
- A \$28.54
 - B \$33.15
 - C \$39.64
 - D \$71.46

- 4 Karl made a circle graph using the following survey data from 100 people interviewed about their favorite places to vacation.

Location Choice	Number of Responses
Ski Mountain	15
Beach	40
Theme Park	25
Park Camp	20

Which of the following would be true of his circle graph?

- F** The "Beach" section of the graph would take up more than half the circle.
- G** The angle formed by the "Ski Mountain" section would be obtuse.
- H** The "Park Camp" section would be the smallest.
- J** The angle formed by the "Theme Park" section would be a right angle.
- 5 The total length of the playlist on Jeff's iPod is 80 minutes. Each song is between 2 to 3 minutes long. Which is a reasonable number of songs in Jeff's playlist?
- A** 33
- B** 40
- C** 43
- D** 20

- 6 The table below shows the number of seconds in different numbers of hours.

Hours	Seconds
2	7,200
3	10,800
4	14,400
5	18,000
h	s

Which of the following expressions shows how to determine the number of seconds in a given amount of hours?

F $s = \frac{h}{3,600}$

G $s = \frac{3,600}{h}$

H $s = 3,600 + h$

J $s = 3,600h$

7 Joan needed to determine the number of meters in given lengths of centimeters and

was using the equation $m = \frac{c}{100}$. Which of the following tables correctly shows the relationship between centimeters and meters?

A

<i>c</i>	<i>m</i>
1	100
2	200
3	300
4	400

B

<i>c</i>	<i>m</i>
100	1
200	2
300	3
400	4

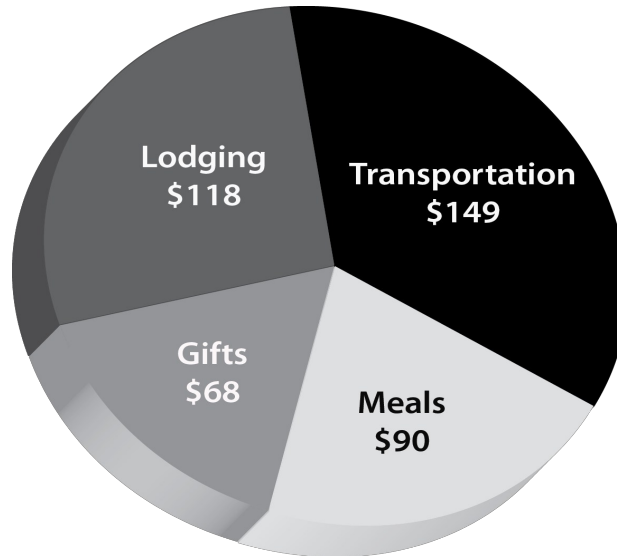
C

<i>c</i>	<i>m</i>
1	1
10	2
100	3
1,000	4

D

<i>c</i>	<i>m</i>
1	0.001
2	0.002
3	0.003
4	0.004

- 8 Cameron graphed the first 2 days of expenses while on a vacation. The circle graph he used is shown below.



Cameron's whole trip will be 8 days long and he plans to spend proportionally each day based on his first 2 days. How much will Cameron likely spend on meals for his full trip if he spends the same amount per day on the trip and the total budget is \$1,700?

- F \$90
- G \$360
- H \$540
- J \$720

- 9** The cost for 4 people to visit a local zoo while on vacation came to \$36. If a bus filled with 30 tourists were to visit the same zoo, how much would it cost for all the tourists on the bus?
- A** \$120
B \$144
C \$270
D \$1,080

- 10** Alvin is taking a bus on a ski trip. The bus traveled 174 miles in the first 3 hours of the trip. If the ski resort is 696 miles from his home, which proportion below could Alvin use to predict how many hours the bus trip to the ski resort will take?

F $\frac{3}{174} = \frac{h}{696}$

G $\frac{3}{174} = \frac{696}{h}$

H $\frac{3}{h} = \frac{696}{174}$

J $\frac{696}{3} = \frac{174}{h}$

- 11** At one theme park there are 5 different thrill rides, including 3 large roller coasters, and 7 different interactive shows to watch. What is the ratio of roller coasters to all rides and shows available at this park?

Express your ratio below using 3 different forms of a ratio.

- 12** Sam was making a casserole for a picnic and was calculating the amount of protein in the casserole for each portion that will be served.

	Serving Size	Protein
Chicken	3 oz	21 gr
Vegetables	1 cup	2 gr
Rice	1 cup	8 gr

Sam plans to triple the servings of each ingredient for the whole casserole and then add an extra serving of vegetables. The casserole will then be divided equally into 6 portions. To find out how many grams of protein are in each portion that will be served, Sam uses the expression $[3(21 + 2 + 8) + 2] \div 6$. How much protein will be in each portion of Sam's casserole?

- F** 22.5 gr
- G** 17.5 gr
- H** 15.8 gr
- J** 12.5 gr

13 Which of the following is the correct simplification of the expression $15 - 9 \div 3 \times 2 + 4$ when applying the order of operations?

A $15 - 9 \div 3 \times 2 + 4$
 $6 \div 3 \times 2 + 4$
 $6 \div 6 + 4$
 $1 + 4$
5

B $15 - 9 \div 3 \times 2 + 4$
 $6 \div 3 \times 2 + 4$
 $2 \times 2 + 4$
 $4 + 4$
8

C $15 - 9 \div 3 \times 2 + 4$
 $15 - 9 \div 6 + 4$
 $15 - 1.5 + 4$
 $15 - 5.5$
9.5

D $15 - 9 \div 3 \times 2 + 4$
 $15 - 3 \times 2 + 4$
 $15 - 6 + 4$
 $9 + 4$
13

14 Mr. Harlin drove 434 miles on a business trip. If his average speed on the trip was 62 miles per hour, how many hours did he drive?

F 6 hr

G 7 hr

H 8 hr

J 9 hr

- 15** Carmen was trying to decide whether it would be less expensive to fly or to drive to her destination for an upcoming vacation. If she drives on vacation, the distance traveled will be 1,312 miles. She will have to fill her 16-gallon gas tank with gasoline 3 times on the trip at a cost of about \$4.00 per gallon. The cost of the airfare to fly would be \$214. How much will she spend to drive on the trip?
- A** \$82
 - B** \$192
 - C** \$328
 - D** \$984

- 16** To prepare for his trip to the beach, Marco made a list of things to buy along with their prices - including tax.

Item	Price
Swimsuit	\$35.49
Flip flops	\$8.68
Sunscreen	\$3.99
Sunglasses	\$14.57
Beach towel	\$21.25

How much will Marco spend if he purchases all the items on his list?

				•		
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

- 17** Distances between some Texas cities that are being considered for a road trip are shown below in a table.

City A	City B	Distance (miles)
Dallas	Austin	252.8
Austin	Houston	165.2
Houston	Corpus Christi	216.5
San Antonio	Austin	80.6
Corpus Christi	San Antonio	143.3
Houston	Dallas	240.7

Four friends plan to start their trip in Austin, then visit San Antonio, Corpus Christi, Houston, and then Dallas before coming straight back home to Austin. The friends each estimated the total distance of the trip and recorded their predictions.

Friend	Mileage estimate
Suzanne	1360
Kara	1100
Owen	2192
Roger	935

Who has the best estimate of the total number of miles they will travel on their road trip?

- A** Roger
- B** Owen
- C** Kara
- D** Suzanne

Test Key

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##	Item #	Correct Answer	Primary SE	Secondary SE	Obj/Cat
1	M06024393CS	C	6.1(B) [R]	None	STAAR: M1
2	M06024392CS	H	6.1(B) [R]	None	STAAR: M1
3	M06024398CS	A	6.2(B) [R]	6.11(A) [P]	STAAR: M1
4	M06024417CS	J	6.10(C) [S]	6.12(A) [P]	STAAR: M5
5	M06024416CS	A	6.8(A) [S]	6.11(A) [P]	STAAR: M4
6	M06024413CS	J	6.4(A) [R]	6.12(A) [P]	STAAR: M2
7	M06024414CS	B	6.4(A) [R]	6.11(B) [P]	STAAR: M2
8	M06024409CS	G	6.3(C) [R]	None	STAAR: M2
9	M06024411CS	C	6.3(C) [R]	6.11(A) [P]	STAAR: M2
10	M06024412CS	F	6.3(C) [R]	6.12(A) [P]	STAAR: M2
11	M06024407CS	0 to 4	6.3(A) [S]	6.12(A) [P]	STAAR: M2
12	M06024403CS	H	6.2(E) [R]	6.11(A) [P]	STAAR: M1
13	M06024406CS	D	6.2(E) [R]	None	STAAR: M1
14	M06024400CS	G	6.2(C) [R]	6.11(A) [P]	STAAR: M1
15	M06024401CS	B	6.2(C) [R]	6.11(B) [P]	STAAR: M1
16	M06024395CS	83.98	6.2(B) [R]	None	STAAR: M1
17	M06024399CS	A	6.2(B) [R]	6.11(B) [P]	STAAR: M1

Scoring Rubrics

11

$\frac{1}{4}$
1:4, $\frac{1}{4}$, 1 to 4

<i>Full Value</i>	<i>Student correctly expresses all 3 forms of a ratio in lowest terms.</i>
<i>Partial value (-1)</i>	<i>Student expresses 3 forms of a ratio, but did not simplify to lowest terms.</i>
<i>Partial value (-2)</i>	<i>Student expresses 2 forms of a ratio and does not necessarily simplify to lowest terms.</i>
<i>Partial value (-3)</i>	<i>Student expresses 1 form of a ratio and does not necessarily use lowest terms.</i>
<i>No credit</i>	<i>Student does not express the ratio in an appropriate form or expresses an incorrect ratio.</i>