



Stamford Public Schools

Mathematics Department

Grade 7

Midterm Examination Review

January 2019

Student Name: _____

School/Teacher: _____

Date:

Blueprint for the review

Ordering Integers	1 Question
Integer Operations	4 Questions
Order of Operations	3 Questions
Scaling Ratios	2 Questions
Solving Proportions	1 Question
Best Deal	1 Question
Tax, Tip, Discount, Mark Up	3 Questions
Theoretical and Experimental Probability	4 Questions
Types of Sampling	1 Question
Mean Absolute Deviation and Interquartile Range	2 Questions
Total Questions	22 Questions

Understanding numbers and operating on them.

1. Use the number line below. Draw and label a point for each number in parts (a)–(c).



a. -4

b. 0

c. $\frac{1}{3}$

In a different color, draw and label parts (d) and (e) on the number line above.

d. the opposite of -4

e. the opposite of $\frac{1}{3}$

f. How do you know that you have correctly located the opposite of -4 ?

2. Which statement below is equivalent to $-15 - 12$?

A. $-15 + 12$ B. $12 - -15$ C. $15 - 12$ D. $-15 + -12$

Explain your choice.

3. The temperature for the past 8 hours has been changing at the rate of -1.5° each hour. The meteorologist predicts that the temperature will continue changing like this for the next 6 hours. The present reading is 0° ?

a. What was the temperature reading 7 hours ago?

b. What temperature is predicted for 6 hours from now?

c. When was the temperature reading 6° ?

d. When is the temperature expected to be -8° ?

4.

Find the answers to the following expressions.

a. $5 \times 8 \div 2 \div 2$

b. $3 + -5 \times 4 - 2$

c. $5 \times 2 \times 3 + 12 \div 6$

d. $-4 \times (3 + -10) - 3^2$

e. $(8 - 20) \div 2^2 - 5 \times -3$

f. $20 - (60 \div (-2 \times 30) - 8) \times 2^2$

g. $12 - 8 + 4 - 3$

h. $4^2 + \frac{-10}{2} + 13$

5.

Find the absolute value.

$|-72|$

A. $-\frac{1}{72}$

B. -72

C. 72

D. $\frac{1}{72}$

6.

Evaluate the following expression below.

$|-12 - 7 + 3|$

Use the situation below to answer questions 7-10.

The school store bought supplies worth \$250 at the beginning of September to sell at the start of school. Therefore, they started with a balance of $-\$250$. What was the account balance after the following transactions in September, October, November and December? Be sure to start with the previous balance to write the number sentence.

7. September: income of \$175

8. October: income of \$200, cost of new supplies \$125

9. November: income of \$125

10. December: cost of new supplies \$150, income of \$60

11. Use the Distributive Property to write an equivalent expression: $6(x+2)$.

12. Determine if the statement below is true or false. Explain your answer and use an example to justify your explanation.

The quotient of a positive integer and a negative integer is always positive.

Comparing and Scaling

13. Find the unit rate for the two different offers and select which of the following is a better buy.

How much money do you save per pencil?

Staples: 24 pencils for \$6.50

OR

CVS: 10 pencils for \$2.25

14. Adam is driving at a constant rate of 50 mph on a trip to Boston. If Boston is 125 miles away, how long will it take for him to arrive if he is driving at the same rate?

15. In a recent survey, 3 out of every 5 people preferred chocolate ice cream over vanilla ice cream.

Using this ratio, how many people out of 200 would you expect to prefer chocolate ice cream?

For numbers 16-19, solve the proportions.

16. $\frac{2}{3} = \frac{x}{24}$

17. $\frac{18}{x} = \frac{3}{4}$

18. $\frac{x}{5} = \frac{4}{20}$

19. $\frac{8}{12} = \frac{14}{x}$

20. The local Farm Market sells peppers at five for \$2.25.

Numbers of Peppers	1	2	3	4	5	10	15	20	100
Cost					\$2.25				

- a. Complete the rate table.
- b. How many peppers could you buy for \$20?
- c. What is the cost of 23 peppers?
- d. What is the unit price? How do you know?

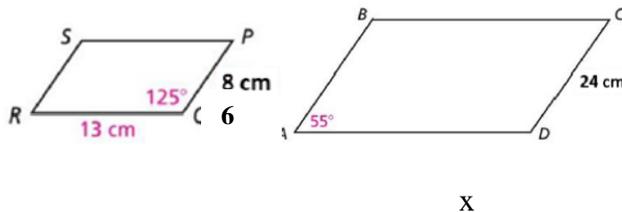
21. Tina and Louise go to lunch at Flipside Burger. They order two meals from the lunch special menu that each cost \$4.50. They also order two sodas that cost \$1.50 each. If they leave a 16% tip, what will the total meal including tip cost for both girls together?

22. At REI they are having a sale on all camping tents. The tents normally cost \$65 but the store has decided to put them on sale for 25% off. What is the new sale price for the tents?

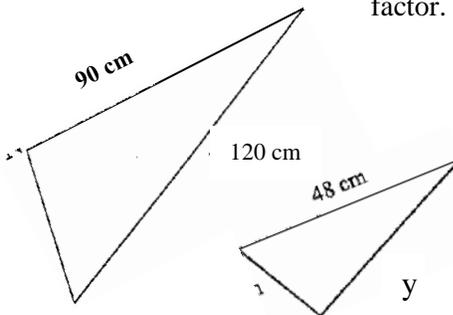
23. United Airlines charges \$275 for a flight from New York City to Washington D.C. During the holiday season they decide to mark up the price by 9%. How much does a flight cost from New York City to Washington D.C. on United Airlines during the holiday season?

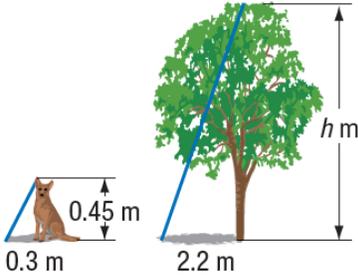
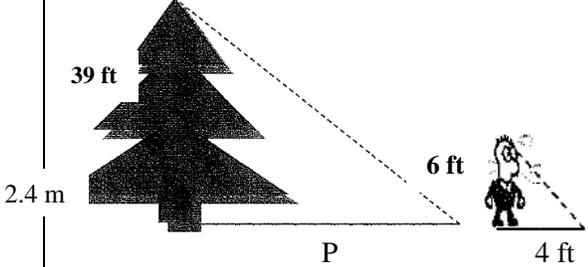
24. Jackson and Adrianna are out to dinner together. Their total cost for their food and drinks is \$54.50. The restaurant then charges a 6% tax on the bill. How much is the bill including the tax?

25. The two figures are similar.
Find the missing side length, x using scale factor.



26. The two figures are similar.
Find the missing side length y , using scale factor.



	14 cm
<p>27. Find the height of the tree. (Use scale factor or proportion to solve.)</p> 	<p>28. Find the shadow of the tree. (Use scale factor or proportion to solve.)</p> 

Write and evaluate a two-step equation for problem 29 - 30.

29. Emma goes to the Fairground. She needs to pay an entrance fee of \$8.00 and each ride cost \$5.50.

Write an equation to find the total cost (C) to go to the fairground and also go on rides.
Use this equation to find the total cost Emma will pay if she goes on 6 rides.

30. Roland rents a car for one day. The rental fee is \$18 and \$0.15 per mile. Write an equation that represents the total cost (C) of renting the car. Use the equation to find the total cost of renting the car if he drove 184 miles.