7th Grade Practice Midterm

7th Grade Math

Name:_____

1. Solve. Do not use a calculator.

a. $6 - 7 + 2^3$

b. $-8 + 2$

c. $5 - -3$

d. $-5 - 7$

e. $3 \bullet -7$

f. $-7 \bullet -3$

g. $-8 \div 4$

h. $\frac{36}{-9}$

i. $-5 + 6$

j. $-6 - 5$

k. $5 \bullet -7$

l. $-15 \div -3$

m. $\frac{-6}{2}$

n. -5^2

2. **Solve. Do not use a calculator.**

a. $\frac{1}{5} + \frac{3}{4}$

b. $\frac{5}{8} \bullet 5\frac{1}{2}$

c. $\frac{1}{2} \div \frac{3}{4}$

d. $\frac{1}{8} - \frac{5}{6}$

e. $4\frac{3}{4} - 1\frac{1}{2}$

f. $4\frac{3}{4} + 1\frac{1}{2}$

g. $4\frac{3}{4} \div 1\frac{1}{2}$

3. Convert each of the following to a decimal.

a. $\frac{4}{9}$

b. $\frac{5}{7}$

c. $3\frac{3}{8}$

4. Distribute.

a. $2(x - 6)$

b. $-3(a + 5)$

c. $5(4x - 3)$

d. $7(6a + 4)$

5. Combine Like Terms and Simplify.

a. $2m + 3y - 3m$

b. $5 - x + 8 + 8x$

c. $3m + 5y - m$

d. $7 - 2x + 8 + 5x$

e. $8x + 3(2x - 4)$

f. $5x - 2(4x - 9)$

6. Solve. You must show all of your steps.

a. $x + 5 = 40$

b. $10x = 25$

c. $3x - 4 = 16$

d. $\frac{x}{5} + 8 = 13$

e. $4(x - 1) = 20$

f. $7x + 10 - 2x = 25$

g. $4x + 8 = 2x - 10$

h. $-4(x - 5) > -2$

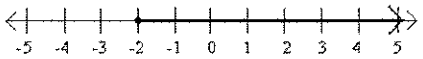
i. $5x + 3(4x-6) = 2x + 7x - 5$

j. $8x + 7 + x < 2(x - 8)$

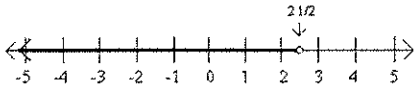
k. $\frac{x}{6} = \frac{6}{9}$

l. $\frac{2}{8} = \frac{3}{x}$

7. Write the inequality.



a.



b.

8. Graph the following.

a. 7x - 5 > 2

b. -4p > 24

9. Hugo is buying pizza to serve a party of at least 125 guests. A large pizza has 12 slices and he already bought 36 slices of pizza. Write an inequality to describe the situation, if *p* represents the number of pizzas he still needs to buy.

10. Solve.

a. *A store sells 5 pencils for one dollar. What will it cost for 8 pencils?*

b. *According to a label there are 50 calories in 2 servings of lunch meat. How many calories are there in 3.5 servings?*

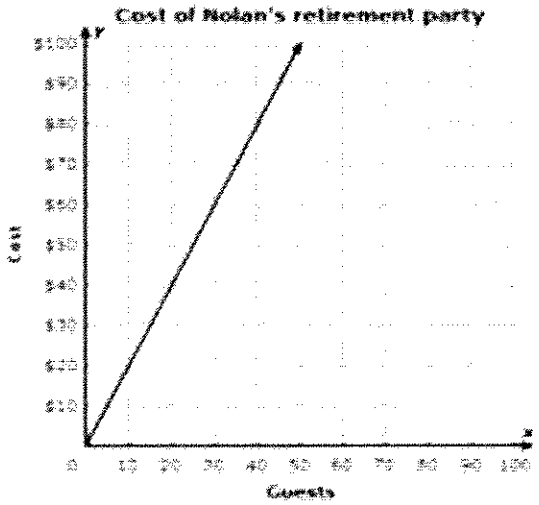
c. *A brownie recipe calls for 1 ¼ cups chocolate chips. If you wish to triple the recipe, how many cups of chocolate chips would you need?*

d. *A car is driving 65 miles per hour. After a 9 hour drive, the car is at its destination. How far did the car drive?*

e. *Joel runs ¼ the distance around the track every ⅓ of a minute. How many times around the track can he run in 1 ½ minutes?*

11. Decide whether the graph or table is proportional or not. If it is proportional, find the rate of change and write an equation.

a.

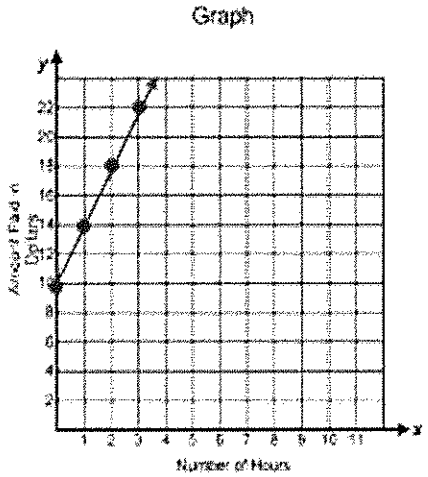


Proportional/Not

Rate of change: _____

Equation: _____

B.



Proportional/Not

Rate of change: _____

Equation: _____

c.

Hours (x)	4	7	10
Miles (y)	48	84	120

Proportional/Not

Rate of change: _____

Equation: _____

d.

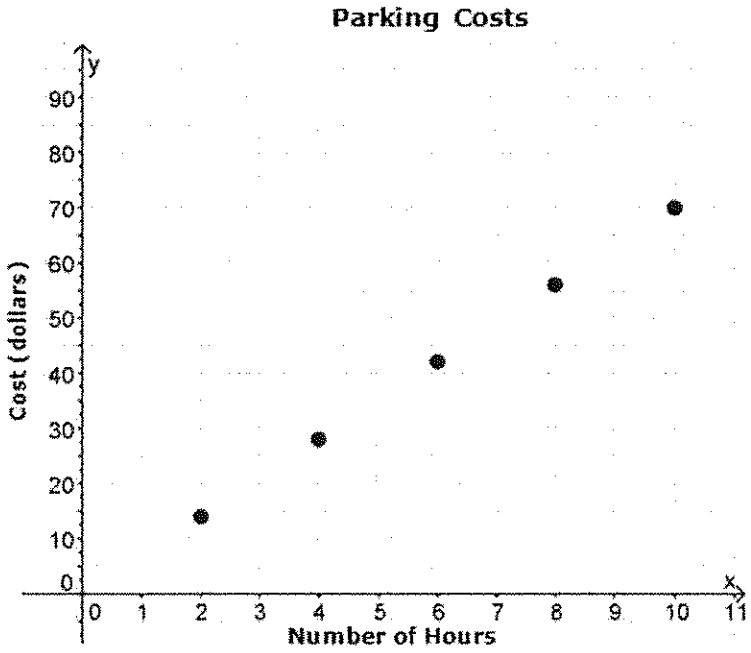
x	y
2	3
4	6
8	12
12	14

Proportional/Not

Rate of change: _____

Equation: _____

12. The graph below shows the amounts Walt was charged the last 5 times he parked his car downtown. What is the price per hour that the city charges its drivers?



13. Find the unit rate (constant of proportionality) of the following scenarios...

a. Six hair ties cost $3.25, how much does one hair tie cost?

b. John drove 96 miles on 4 gallons of gas. How far can he drive on one gallon of gas?

c. It costs $7.99 for 3 gallons of milk, how much does it cost of 1 gallon of milk?

14. What is the constant of proportionality for the equation below?

$a = 0.7p$

15.Convert the following measurements. Show all steps.
(Hint: 1 foot = 12 in., 1 cup = 8 fl oz, 1 inch = 2.54 cm)

a. 48 in. = _____ feet

b. 36 cm = _____ inch

c. 64 fl oz = _____ cups

16. Find the following...

a. 28% of 92?

b. 4% of 306?

c. 9.3% of 98?

d. 55 is 42% of what?

e. What is 25% of 40?

17. A $250 bike is on sale for 15% off. What is the new price?

18. Ashley bought a dress at $35.00 and later sold it to Marley for a 70% profit. How much did Ashley sell the dress for?

19. Mr. Moundros goes to MC Sporting goods with a 15% off coupon. He wants to buy a MSU sweatshirt for Miss Drayton. The regular price of the sweatshirt is $54.99 on sale for 20% off. What is the cost of the sweatshirt after both discounts and Michigan sales tax?

20. A pie costs $12.99. A second pie is ⅓ off. Using an estimate, approximately how much will it cost for the 2 pies?

21. Find each percent of change. Round to the nearest whole number.

a. 90 in to 45 in

b. $100 to $14

22. You have $550 in saving account that earns 3% simple interest each year. How much will be in your account in 10 years?

Answers

1. a. 7 b. -6 c. 8 d. -12 e. -21 f. 21 g. -2
   h. -4 i. 1 j. -11 k. -35 l. 5 m. -3 n. -25
2. a. $\frac{19}{20}$ b. $3\frac{7}{16}$ c. $\frac{2}{3}$ d. $\frac{-17}{24}$ e. $3\frac{1}{4}$ f. $6\frac{1}{4}$ g. $3\frac{1}{6}$
3. a. 0.44444... b. 0.714... c. 3.375
4. a. 2x – 12 b. -3a – 15 c. 20x – 15 d. 42a + 28
5. a. -1m + 3y b. 7x + 13 c. 2m + 5y d. 3x + 15 e. 14x – 12
   f. -3x + 18
6. a. 35 b. $2\frac{1}{2}$ c. $6\frac{2}{3}$ d. 25 e. 4 f. 3 g. -9
   h. $x < 5\frac{1}{2}$ i. $1\frac{5}{8}$ j. $x < -1\frac{2}{7}$ k. 4 l. 12
7. a. $x \geq -2$ b. $x < 2\frac{1}{2}$

8. a. $x > 1$ b. $p < -6$

9. $12x + 36 \geq 125$
10. a. \$1.60 b. 87.5 calories c. $3\frac{3}{4}$ *cups* d. 585 miles e. $1\frac{1}{8}$ *laps*
11. a. Proportional, \$2/guest y = 2x
    b. Not
    c. Proportional, 12, y = 12x
    d. Not
12. \$7/hour
13. a. \$0.54 b. 24 miles c. \$2.66
14. 0.7
15. a. 4 ft b. 14.17 in. c. 8 cups
16. a. 25.76 b. 12.24 c. 9.114 d. 130.95 e. 10
17. \$212.50
18. \$59.40
19. \$39.63
20. \$21.65
21. a. 50% decrease b. 86% decrease
22. \$715