Name: Key Date: 12/18/2015 7th Grade – Semester Test

1) Write the following in words. Give 2 different ways of saying them.

(4) a) $x + 5$ b) $8x$

(1) 2) What is always the first step when multiplying or dividing fractions?

get everything fraction form.

3) Match the following equations with the properties they represent.

(3)
D $a * b = b * a$
E $1 * x = x$
F $(ab)x = a(bx)$
C $a + b = b + a$
A $x + 0 = x$
B $a(b + c) = ab + ac$

A) Identity Property of Addition
B) Distributive Property
C) Commutative Property of Addition
D) Commutative Property of Multiplication
E) Identity Property of Multiplication
F) Associative Property of Multiplication

4) Grab some graph paper and graph the following points on the same coordinate plane.

(4) a) $(1, 4)$ b) $(-3, -2)$ c) $(0, 5)$ d) $(-4, 1)$

5) For the points above, state what quadrant they are located in.

(4) a) I b) III c) b/w I & II d) II

6) Translate the following into EQUATIONS:

(4) a) The quotient of 12 and y is 15 $12/y = 15$ b) The sum of 5 and x is 20 $5 + x = 20$

7) Divide the following fractions.

(6) a) $1\frac{2}{3} \div 4\frac{3}{8}$ $\frac{5}{3} \cdot \frac{8}{35} = \frac{8}{21}$ b) $\frac{8}{1} \div \frac{9}{10}$ $= \frac{10}{3}$

8) Write the following fractions as decimals.

(4) a) 6/16 .375 b) 14/5 2.8

9) Put the following set of numbers in order from least to greatest.

(2) $1.2, 1\frac{2}{5}, 1\frac{5}{8}, 1.\overline{2}$ (1.4, 1.625) $1.2,\ 1.\overline{2},\ 1\frac{2}{5},\ 1\frac{5}{8}$

10) Solve the following equations. Show ALL your work!

(6) a) $x - 5 = 2$ $x = 7$ b) $4x = 24$ $x = 6$.

11) Evaluate the following expressions for the given values.

(6) a) $6x + 7y - 2x$; use $x = 1$ and $y = -3$ $6 - 21 - 2 = -17$ b) $-x + 4(y - 3x)$; use $x = 20$ and $y = 10$ $-20 + 4(10 - 60) = -20 + 4(-50) = -220$

12) Find the sum or difference of the following:

(6) a) $-14 + (-7)$ -21 b) $-8 + (+6)$ -2 c) $-15 - 20$ -35 d) $-6 + (3)$ -3.

13) Multiply the following fractions.

(6) a) $2\frac{7}{10} * 2\frac{2}{5}$ $\frac{27}{10} \cdot \frac{12}{5} = \frac{162}{25}$ b) $\frac{30}{1} * \frac{4}{5} = 24$

(6) 14) Divide the following fractions.

a) $\frac{39}{16} \div \frac{12}{14} \cdot \frac{14}{72} = \frac{21}{32}$ b) $\frac{28}{12} \div \frac{2}{6} \cdot \frac{6}{3} = 14$ (2)

(2) 15) Evaluate: $(1)(1)(+2)(-2)(+3)(+5)(-1) = -60$

(4) 16) Find the absolute value and evaluate the following:

a) $10 + |-15|$ 25 b) $|-7|$ 7

17) Fill in the blank to make the equation work.

(2) a) $2 + \underline{-2} = 0$ b) $4 + \underline{0} = 4$

c) $6 * \underline{1} = 6$ d) $9 * \underline{0} = 0$

(6) 18) Evaluate the following expressions. Be sure to show all your steps.

a) $(18 + 9) * 4 - 3$ (105) b) $5(10 * 7 - 8^2) - 2$ (28)

(6) 19) Solve for x in the following equations. Show all your work!

a) $\frac{5}{8}x = \frac{2}{5} \cdot \frac{8}{5} = \frac{16}{25}$ b) $x - \frac{1}{5} = \frac{3}{5}$ $x = \frac{4}{5}$

(4) 20) Convert the following decimals to fractions. Write your answer in simplest form.

a) .4 $\frac{2}{5}$ b) .45 $\frac{45}{100} = \frac{9}{20}$

(4) 21) Multiply the following decimals. Show ALL your work!!

a) $(1.6)(-6.57) = -10.512$ b) $(-2.1)(4.56) = -9.576$

(6) 22) Solve the following equations.

a) $1.1x = .55$ $x = .5$ b) $x - 9.42 = 11.8$ $x = 21.22$

(6) 23) Solve the following equations. Show ALL your work!

a) $x - 23 = -45$ $x = -22$ b) $\frac{x}{3} = -18$ $x = -54$.

(4) 24) Add/subtract the following decimals.

a) $2.59 + 10.123$ $= 12.713$ b) $0.046 - 6.564$ $= -6.518$

(4) 25) Combine the like terms of the following expressions:

a) $-7x - 12x$ $-19x$ b) $-7x - 8x + 14x$ $-x$

Name Key Date _____ Class _____

CHAPTER 4

Proportional Relationships

Free Response Test B

1. Jonathan's truck can travel 468 miles on 18 gallons of gasoline. What is the number of miles per gallon?

26 mi/gal

2. The cost of 15 pounds of grass seed is $41.25. What is the cost per pound of grass seed?

$2.75/lb.

3. 36 oz of flour costs $4.32. What is the cost per ounce?

$.12/oz.

4. Cassandra drove 370.5 miles in 6.5 hours. How many miles per hour did she drive?

57 mph

5. Find an equivalent ratio.
17:5

34/10

6. Find an equivalent ratio.
7:13

14/26

7. Find an equivalent ratio.

$\frac{17}{5}$

34/10

8. Find an equivalent ratio.

$\frac{7}{13}$ $\frac{14}{26}$

9. Solve for y.

$\frac{35}{5} = \frac{21}{y}$

$y = 3$

10. Blake rode his bike 104 miles at a constant speed fro 8 hours. How long did it take him to ride 26 miles?

2 hrs.

11. Solve for x.

$\frac{18}{21} = \frac{24}{x}$

28

12. Nathan drove 262 miles in 5 hours at a constant speed. How long would it take him to drive 377.28 miles at the same speed?

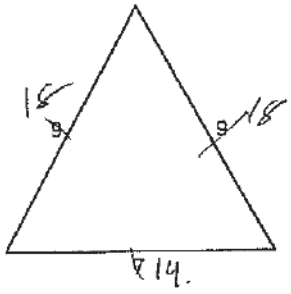
7.2 hours

Name _____ Date _____ Class _____

CHAPTER 4 **Proportional Relationships**

Free Response Test B, continued

13. Write a set of side lengths for a triangle that could be similar to the triangle shown below.



(1)

_____

_____

14. A tree that is next to a telephone pole is 15 feet tall and casts a shadow 4 feet long. The telephone pole is 90 feet tall. How long is the shadow of the telephone pole?

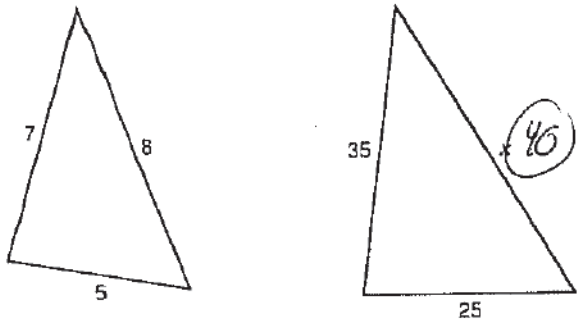
(3)

15 / 4 = 90 / x

24 ft

15. The two triangles are similar. Find *x*.

(2)



_____

16. A building with a height of 48 m casts a shadow that is 30 m long. A person standing next to the building casts a shadow that is 0.8 m long. How tall is the person?

(3)

1.28 m

48 / 30 = x / .8

17. On a scale drawing with a scale of $\frac{1}{50}$, the height of a building is 12.6 inches. How tall is the actual building?

(3)

$\frac{1}{50} = \frac{12.6}{x}$

630 in.

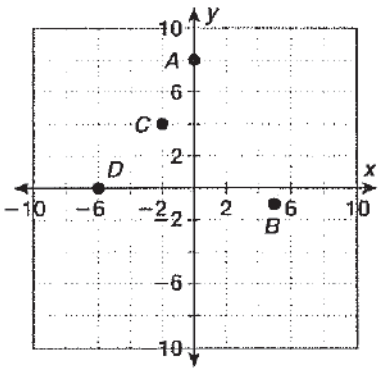
18. On a scale drawing with a scale of 1 cm:0.9 m, the height of a tree is 1.2 cm. How tall is the actual tree?

(3)

1.08 m

$\frac{1}{.9} = \frac{1.2}{x}$

Name: Key
2/16/2015
7th Grade – Test 5



1) What are the coordinates of the following points?
(4)
A) (0, 8)
B) (−1, 5)
C) (−2, 4)
D) (−6, 0)

2) Using the picture above, what quadrant is each point in?
(2)
A) B/w I & II
B) IV
C) II
D) B/w II & III

3) What are the coordinates of the point that is 2 units to the right and 9 units down from the origin? (2)
(2, −9)

4) Matthew draws a line through the points (− 2, 5) & (1, − 8). What is the slope of the line? (2)
$\frac{-13}{3}$

5) Given the following table. A) Determine if it is a direct variation. B) If it is, find the constant of variation and write the equation of direct variation.

Miles	1	2	3	4
Seconds	4	5	6	7

(3)
$\frac{4}{1}$ $\frac{2}{5}$ a) not direct.

6) Given the following table. A) Determine if it is a direct variation. B) If it is, find the constant of variation and write the equation of direct variation.

Miles	8	10	12	20
Seconds	4	5	6	10

(3)
$\frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \frac{10}{20}$ $y = \frac{1}{2}x$ or $y = 2x$.

7) The following points are part of a direct variation line. What is the equation of the direct variation?
(8)
a) (2, − 4) b) (− 9, 11) c) (5, 15) d) (18, − 3)

$y = -2x$ $y = \frac{11}{-9}$ $y = 3x$ $y = -\frac{1}{6}x$.

8) Fill in the blanks for the definitions of slope:

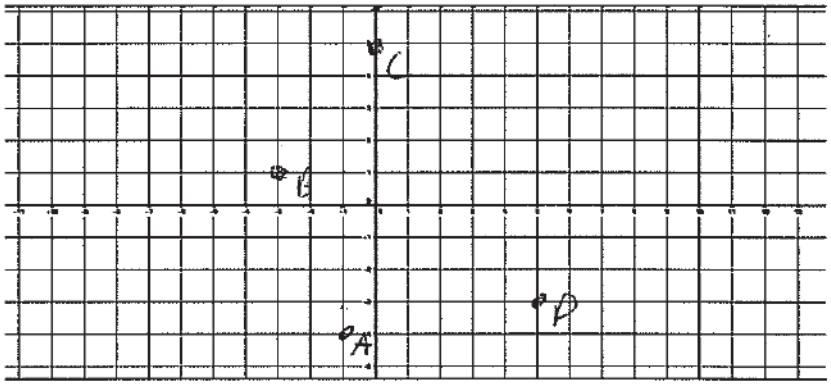
(3)

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

9) Use the following graph to plot and label the points:

(4)

$A(-1,-4)$
$B(-3,1)$
$C(0,5)$
$D(5,-3)$



10) Using the points from question 9, find the slope between the given points.

(4)

a) A & B $\frac{-5}{2}$ b) A & C $\frac{9}{1}$ c) A & D $\frac{1}{6}$ d) B & C $\frac{4}{3}$

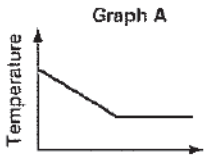
11) Match the graph to the story that best fits it.

(3)

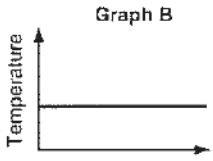
a) The temperature of the water in a glass remained constant. (B)

b) The temperature of the water in a glass cooled down steadily with the addition of ice, then remained constant when all the ice had melted. (A)

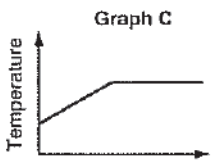
c) The temperature of the water in a glass rose steadily for several hours until it reached room temperature, then remained constant. (C)



(b)



(a)



(c)

Name: Key
7th Grade – Test 6
3/22/2016

1) Convert the following factions and decimals to percentages. Convert the following percentages to decimals. Keep one decimal place in all your answers.

(5)

a) 3/8 37.5%
b) 1/4 25%
c) .698 69.8%
d) 74.3% .743
e) .00062 .062%
f) 1/3 33.3%
g) 1/5 20%
h) 2.98% .0298
i) 5/6 83.3%

2) Solving the following equations by first eliminating the fractions.

(6)

21
a) $\left(\frac{2}{7}x + 10 = \frac{2}{3}\right)$ $6x + 210 = 14$ $x = \frac{-98}{3}$

24
b) $\left(\frac{1}{4}x + 8 = \frac{5}{6}\right)$ $6x + 192 = 20$ $x = \frac{-56}{3}$

3) Find the percent of change in the following problems. Keep one decimal place in all your answers

(12)

a) 46 is increased to 54 17.4%
b) Milk priced went from \$3.98 to \$4.78 20.1%
c) 37 is decreased to 25 32.4%
d) Propane has gone from \$3.99 to \$1.69 57.6%

4) Answer the following questions about percentages. Remember the three different types of percent questions we talked about.

(18)

a) What is 10% of 40? 4
b) What is 27% of 102? 27.54
c) 56 is what percent of 70? 80%
d) 65 is what percent of 75? 86.7%
e) 15 is 75% of what number? 20
f) 46 is 35% of what number? 131.4

Application problems!!

5) Calculate the sales tax/commission rate AND the final price paid/amount earned for the following purchases. When you see the symbol (@) it means "at this price per item."

(12)

a) Total Sales: $250
Tax Rate: 9.5%
Tax: $ 23.75
Total: $ 273.75

b) Allison Sells: $600
Commission: 21%
Commission: $ 126

c) Bought:
2 Books @ $10 #20
5 cans of soup @ $2 #10
Tax Rate: 10%
Tax: $#2
Total: $#32

d) Bought:
Star Wars VI @ $25
3 Shirts @ $15 45
Tax Rate: 9%
Tax: $ 6.3
Total: $ 76.3

6) The simple interest formula is given by: I=P*r*t. State what each letter represents and the units that go with it.

(3)

↳time (years)
↳rate (%)
↳principle ($)
↳interest ($)

7) Travis invested $800 into a savings account that earns 7% interest. If he leaves the money in the account for 7 years, how much interest does he make? How much money does he have now?

(3)

$I = 800(.07)(7)$
$= 392$

#1192

8) Taylor earned $75 on a savings account that earned 6% interest. If she had left her money in the account for 3 years, how much did she originally invest in the account? How much money does she have now?

(3)

$75 = P(.06)(3)$
$P = 416.67$

#491.67

9) Shyneah invested $7,000 in a savings account and earned $68 over 2 years. What was the interest rate she was earning? How much money does she have now?

(3)

$68 = 7000(r)(2)$
$r = .49\%$

#7068

10) Baylee has $950, but she wants $1,000. The money is in a savings account that earns **0.08%**. How long does she have to leave her money in the account? (HINT: How much does she need to make in interest?)

(3)

$50 = 950(.0008)(t)$
$t = 65.8$ years.

Name: Key
1/8/2016
7th Grade Quiz

1) Find the unit rate of the following *Watch your units*:

a) $2010 in 6 months $335/month.

b) 220m in 20sec 11 m/s

2) What is the denominator of a **unit** rate? 1

3) Find each unit price. Then, decide which is the better buy.

.06 a) $\frac{\$2.52}{42\ oz}$ & $\frac{\$3.64}{52\ oz}$ .07

27.6 b) $\frac{\$8.28}{0.3m}$ & $\frac{\$13.00}{0.4m}$ 32.5

4) Find two ratios equivalent to each given ratio.

a) 3 to 7 $\frac{3}{7}$ $\frac{6}{14}$ $\frac{9}{21}$

b) 8: 4 $\frac{16}{8}$ $\frac{24}{12}$

5) Complete each table of equivalent ratios.

Angelfish	4	8	24	20
Tiger fish	3	6	18	15

6) There are three difference ways of writing ratios. One of them is: 4 to 7. Give me the other two using these same numbers. 4:7 $\frac{4}{7}$

Name: Key

1/15/2016

7th Grade Quiz

1) Find the unit rate of the following *Watch your units*:

a) $2010 in 6 months $335 /month.

b) 220m in 20sec 11 m/sec.

2) Sect 4.4 HW. Solve each proportion.

a) $\frac{4}{x} = \frac{12}{24}$ $\frac{12x}{12} = \frac{4 \cdot 24}{12}$ $x = 8$

b) $\frac{x}{84} = \frac{32.5}{182}$ $\frac{182x}{182} = \frac{84 \cdot 32.5}{182}$ $x = 15$.

3) Sect 4.3 HW. A certain shade of paint is made by mixing 5 parts blue paint with 2 parts white paint. To get the correct shade, how many quarts of white paint should be mixed with 8.5 quarts of blue paint?

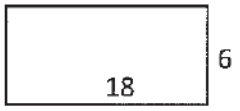
$\frac{5}{2} = \frac{8.5}{x}$ $\frac{5x}{5} = \frac{17}{5}$ $x = 3.4$ quarts

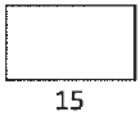
4) Given $\Delta ABC \sim \Delta DEF$. Fill in the blanks for which angles are equal and which sides proportional.

$\angle A = \angle D$ $\angle C = \angle F$ $\angle B = \angle E$

$AC \sim DF$ $AB \sim DE$ $BC \sim EF$

5) Determine if the following shapes are ~~proportional~~ Similar. Show the proportions you used.





$\frac{18}{15} = \frac{6}{9}$

not ~~Similar~~

6) There are three difference ways of writing ratios. One of them is: 4 to 7. Give me the other two using these same numbers.

$\frac{4}{7}$ 4:7

Name: Key.
1/22/2016
7th Grade Quiz

1) Knowing that a model car has a height of 2in and the actual car stands 4ft tall, what is the scale factor between the two?

1in : 2 ft.

2) Sect 4.4 HW. Solve each proportion.

a) $\frac{4}{x} = \frac{12}{24}$ $x = 8$

b) $\frac{x}{84} = \frac{32.5}{182}$ $x = 15$

3) The following shapes have a scale factor of 1:10. Find the missing sides

	Actual	Model
Length	200in	20in
Width	16ft	1.6ft.

$\frac{1}{10} = \frac{20}{x}$

$\frac{1}{10} = \frac{x}{16}$

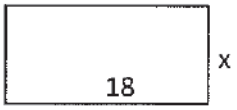
$x = 1.6$

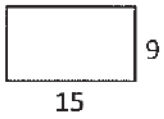
4) Given $\Delta ABC \sim \Delta DEF$. Fill in the blanks for which angles are equal and which sides proportional.

$\angle B =$ E $\quad$ A $= \angle D$ $\quad$ C $= \angle F$

$AB \sim$ DE $\quad$ $BC \sim$ EF $\quad$ AC $\sim DF$

5) These rectangles are proportional. Find x. Write your answer in decimal form.



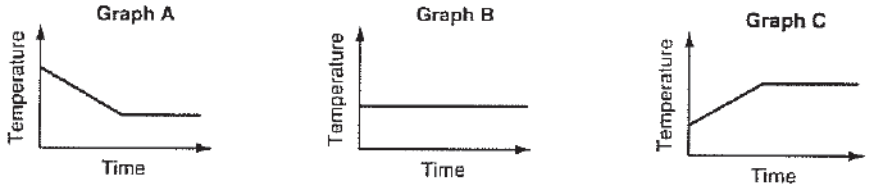


$\frac{18}{15} = \frac{x}{9}$

$x = 10.8$

Name: Key
2/5/2016
7th Grade Quiz

1) Match the graph to the story.



a) The temperature of the water in a glass remained constant. B

b) The temperature of the water in a glass cooled down steadily with the addition of ice, then remained constant when all the ice had melted. A

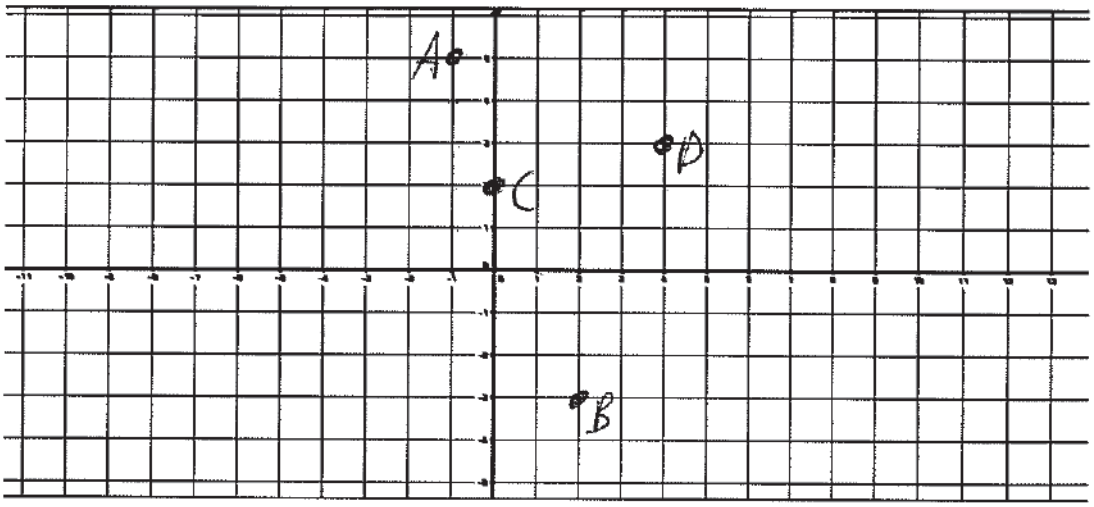
c) The temperature of the water in a glass rose steadily for several hours until it reached room temperature, then remained constant. C

2) Given $\Delta LUK \sim \Delta TRV$. Fill in the blanks for which angles are equal and which sides proportional.

$\angle K = \angle V$ $\quad \angle L = \angle T$ $\quad \angle U = \angle R$

$LK \sim TV$ $\quad UK \sim RV$ $\quad LU \sim TR$

3) Use the following graph to plot and label the points:
$A(-1,5)$
$B(2,-3)$
$C(0,2)$
$D(4,3)$



4) Name the quadrants that each of the points are in from question 3.

A) II B) IV C) B+W I & II D) I

5) Fill in the blanks for the definitions of slope:

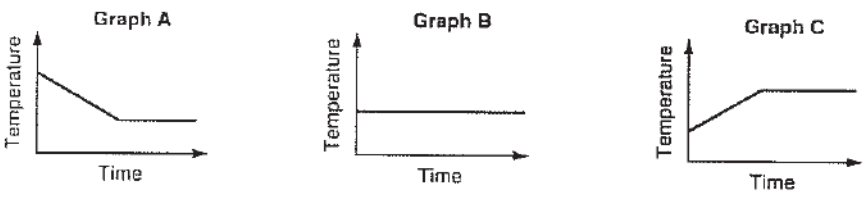
$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

6) Using either method of calculating the slope that we did yesterday, find the slope between points A and B from question 3.

$\frac{-8}{3}$

Name: Key
2/12/2016
7th Grade Quiz

1) Match the graph to the story.



a) The temperature going from night-time to day-time in ND. C

b) The temperature going from day-time to night-time in ND. A

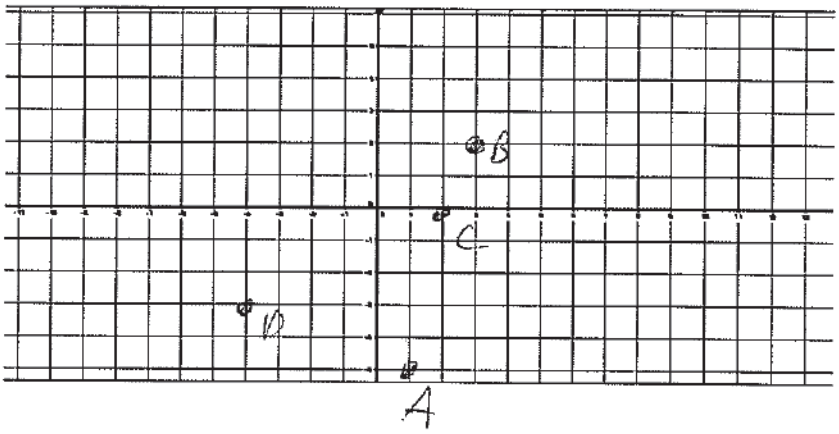
c) The temperature inside my super insulated house going from night-time to day-time. B

2) The following points are part of a direct variation line. What is the equation of the direct variation?

a) $(2,6)$ $y = 3x$ b) $(-9,3)$ $y = -\frac{1}{3}x$ c) $(4,-16)$ $y = -4x$

3) Use the following graph to plot and label the points:

$A(1,-5)$
$B(3,2)$
$C(2,0)$
$D(-4,-3)$



4) Name the quadrants that each of the points are in from question 3.

A) IV B) I C) I/IV D) III

5) Fill in the blanks for the definitions of slope:

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

6) Using either method of calculating the slope that we did and the points from question 3, find the slope between points:

a) A and C 5

b) B and D $\frac{5}{7}$

c) A and C 5

Name: Key

2/26/2016

7th Grade Quiz

1) Estimate the percent of each number

a) 42% of 298 $\frac{4}{10} \cdot 300$ (120)

b) 25% of 403 $\frac{1}{4} \cdot 400 = 100$.

2) From memory, write the decimal/fractional equivalence of the following.

a) $\frac{1}{4}$ .25

b) $\frac{2}{3}$ $.\overline{6}$

c) 0.625 $\frac{5}{8}$

d) .75000000 $\frac{3}{4}$.

3) Order the numbers from least to greatest.

$0.\overline{6}, 6\%, \frac{3}{5}$ 6%, $\frac{3}{5}$, $.\overline{6}$

4) Write the following numbers as a percent.

a) .012 1.2%

b) 1.2 120%

c) 0.625 62.5%

d) .75 75%.

5) Write the following percentages as a decimal.

a) .012% .00012

b) 1.2% .012

c) 625% 6.25

d) 7.5% .075.

Name: Key
3/11/2016
7th Grade Quiz

1) Find the percent change.

a) 72 is decreased to 45

37.5%

b) 180 is decreased to 140

22.2%

2) Find the final price of each of the following:

a) $28 is increased by 150%

+ 42
$70

b) $28 is decreased by 50%

−14
$14

3) Calculate the sales tax/commission rate AND the final price paid/amount earned for the following purchases.

a)
Total Sales: $300
Tax: 8%
Tax: $ 24
Total Amount: $ 324

b)
Total Sales: $500
Commission: 30%
Commission: $ 150

4) Write the following numbers as a percent.

a) .12 12%

b) 1.22 122%

c) 62.5 6250%

d) .075 7.5%

5) Write the following percentages as a decimal.

a) .012% .00012

b) 1.2% .012

c) 625% 6.25

d) 7.5% .075

6) Solving the following equations by first eliminating the fractions.

a) $\left(\frac{2}{3}x + 8 = \frac{5}{6}\right) \cdot 6$

$4x + 48 = 5$
$-48 \quad -48$

$\frac{4x}{4} = \frac{-43}{4}$

$x = -\frac{43}{4} = -10\frac{3}{4}$

b) $\left(\frac{5}{8}x - 3 = \frac{3}{4}\right) \cdot 8$

$5x - 24 = 6$
$+24 \quad +24$

$5x = 30$

$x = 6$

Name: Key

3/18/2016

7th Grade Quiz

1) Find the percent change.

a) Original: 93, New: 25 $\frac{93-25}{93}$ 73.1%

b) Original: 140, New: 150 $\frac{140-150}{140}$ 7.1%

2) Find the final price of each of the following:

a) \$50 is increased by 20% $50 \times .2 = 10$ \$60

b) \$30 is decreased by 40% 12 \$18

3) Calculate the sales tax/commission rate AND the final price paid/amount earned for the following purchases.

a)
Total Sales: \$350
Tax: 12%
Tax: \$ 42
Total Amount: \$ 392

b)
Total Sales: \$60
Commission: 25%
Commission: \$ 15

4) Answer the following questions.

a) What is 91% of 200?
$X = .91 \times 200 = 182$

b) 26 is 40% of what number?
$X = 65$.

5) Answer the following questions.

a) What percent of 90 is 15?
16.7%

b) What percent of 50 is 45?
90%

6) Given the simple interest formula, state what each letter represents AND the units it is measured in.

$I = P * r * t$
- r: rate %
- t: time (years)
- P: principle (\$)
- I: interest (\$)

Name:_____
4/8/2016
7th Grade Quiz

1) What is the title of each section?
a) Sect 7.1 Mean, median, mode, range.
b) Sect 7.2 Box-and-whisker Plots.
c) Sect 7.3 Population and Samples.

2) Define the following terms.
a) Mean $\frac{\text{sum}}{\#}$

b) Median middle #

c) Lower quartile median of lower ½

d) Interquartile range diff of upper and lower quartiles.

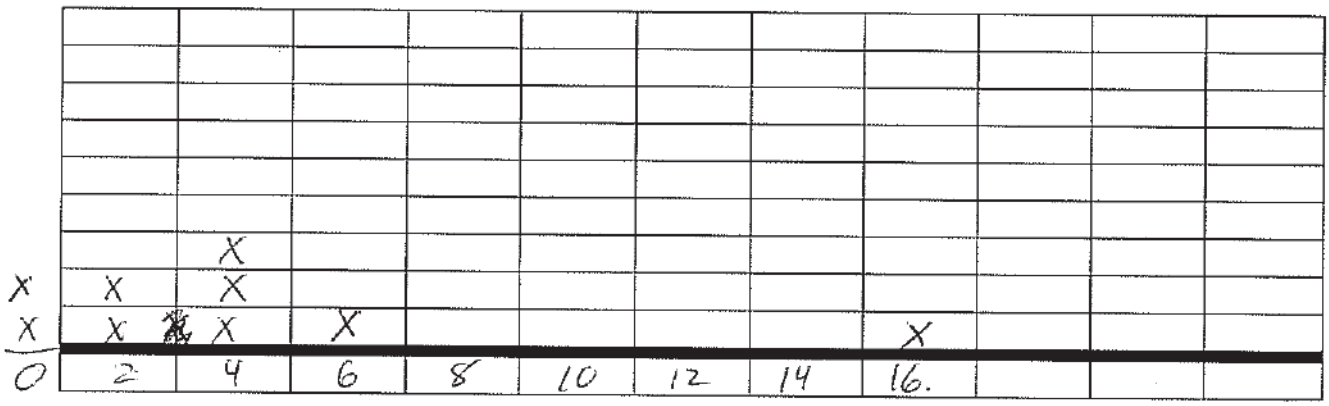
3) Find the mean, median, mode, and range of the data set. Show the work I asked you to show on your HW. 4.4 4 4 16

2, 1, 6, 16, 0, 4, 3, 4, 4

$\frac{40}{9} =$

4) Make a line chart that represents the data above. Are there any outliers?

16.



Name: Key
4/15/2016
7th Grade Quiz

1) There are 5 important points you need to find to make a box-and-whisker plot. Name 4 of them.

2) Find the mean, mode, and range of the data set. Show the work I asked you to show on your HW.

74.57 68. mode 81, 72.

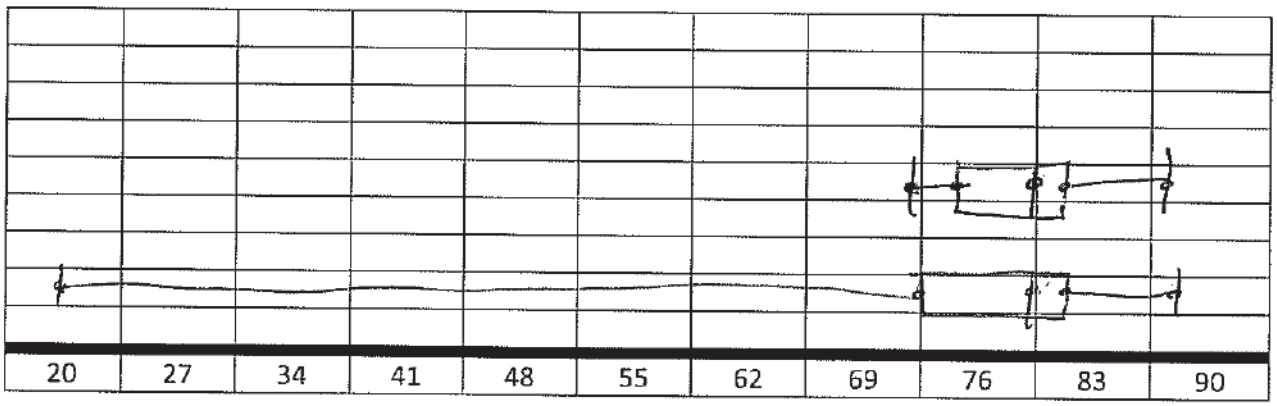
81, 73, 20, 88, 86, 85, 82, 81, 72, 72, 79, 75, 74, 76

1044 / 14

3) Using the same numbers above, find the:

Minimum 20
Lower quartile ~~73.25~~ 73
Median ~~77.5~~ 77.5
Upper quartile ~~81.75~~ 82
Maximum 88
Interquartile range ~~8.5~~ 9

4) Make 2 box-and-whisker plots that represents the data above. One with the outlier and one without the outlier. Count up by 7's.



Name: Key
4/22/2016
7th Grade Quiz

1) In your own words or formula, explain how you calculate each of the following terms:

Range: max − min

Mean: $\frac{\text{sum}}{\#}$

Median: middle #

5.38 7.4 7.6

2) Find the mean, mode, and range of the data set. Show the work I asked you to show on your HW.

3.0, 7.4, 2.7, 4.1, 8.2, 5.0, 7.4, 7.1, 8.6, 1.0, 1.5, 8.3, 4.9, 5.9, 7.5, 3.5

3) Using the same numbers above, find the:

Minimum 1.0
Lower quartile 3.25
Median 5.45
Upper quartile ~~5.6~~ 7.45
Maximum 8.6
Interquartile range 4.2

4) Make a stem-and-leaf plot of the data from question 2. Be sure to write the KEY you chose to use at the top of the chart.

1	0	5								
2	7									
3	0	5								
4	1	9								
5	0	9								
6										
7	1	4	4	5						
8	2	3	6							