Key

NAME _____ DATE _____ PERIOD _____   /20

Unit 7, Lesson 10: Interpreting Inequalities

1. There is a closed carton of eggs in Mai's refrigerator. The carton contains *e* eggs and it can hold 12 eggs.

   a. What does the inequality $e < 12$ mean in this context?   *There are fewer than 12 eggs – not full*
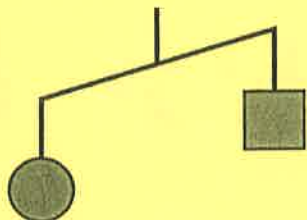
   b. What does the inequality $e > 0$ mean in this context?   *There are more than 0 eggs in carton not empty*

   c. What are some possible values of *e* that will make both $e < 12$ and $e > 0$ true?   *1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11*

/3

2. Here is a diagram of an unbalanced hanger.

   0 1 2 3 4 5 6 7 8 9 10 11

   a. Write an inequality to represent the relationship of the weights. Use *s* to represent the weight of the square in grams and *c* to represent the weight of the circle in grams.

   ~~s~~ $c > s$

   b. One red circle weighs 12 grams. Write an inequality to represent the weight of one blue square.

   $s < 12$

   c. Could 0 be a value of *s*? Explain your reasoning.   *No an object has weight*

/3

3. Tyler has more than $10. Elena has more money than Tyler. Mai has more money than Elena. Let *t* be the amount of money that Tyler has, let *e* be the amount of money that Elena has, and let *m* be the amount of money that Mai has. Select **all** statements that are true:

   A. $t < j$
   (B.) $m > 10$
   (C.) $e > 10$
   (D.) $t > 10$
   E. $e > m$
   (F.) $t < e$

   $10 < t$
   $t < e$
   $e < m$

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4. a. Jada is taller than Diego. Diego is 54 inches tall (4 feet, 6 inches). Write an inequality that compares Jada's height in inches, *j*, to Diego's height.

   $54" < j$

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b is on next page

b. Jada is shorter than Elena. Elena is 5 feet tall. Write an inequality that compares Jada's height in inches, j, to Elena's height.

$j < 5$ feet   or

$j < 60$ inches

(from Unit 7, Lesson 8)

5. Which is greater, $\frac{-9}{20}$ or -0.5? Explain how you know. If you get stuck, consider plotting the numbers on a number line.

more to right
less five
neg

$-\frac{1}{2}$

$\frac{-9}{20} > \frac{-10}{20}$

(from Unit 7, Lesson 3)

6. Select **all** the expressions that are equivalent to $\left(\frac{1}{2}\right)^3$.

$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{2^3} = \frac{1}{8}$

Ⓐ $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$

Ⓑ $\frac{1}{2^3}$

C. $\left(\frac{1}{3}\right)^2$ No

D. $\frac{1}{6}$ No

Ⓔ $\frac{1}{8}$

(from Unit 6, Lesson 13)