Name Date

6th Grade Benchmark for Topics 1 through 4

Be sure to *show all of your thinking*, read each question carefully, and provide complete answers. Make sure to answer each questions fully.

Standards: 6.EE.C.9, 6.NS.C.6c, 6.EE.B.5, 6.NS.C.6a, 6.EE.A.4, 6.EE.B.7,6.NS.C.6b, 6.EE.A.1, 6.EE.A.3, 6.NS.B.4, 6.NS.C.8, 6.G.A.3, 6.EE.A.1, 6.NS.A.1, 6.EE.A.2b, 6.NS.B.2, 6.EE.A.2a, 6.EE.B.8,

1. The table shows the number of cups of flour, *f*, that a bakery needs for the number of pound cakes that they make, *p*. **(6.EE.C.9)**

Pound Cakes, *p*	3	6	9	14
Cups of Flour, *f*	8.25	16.5	24.75	

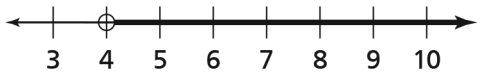
Part A

Write an equation that relates the number of cups of flour to the number of pound cakes that the bakery makes.

Part B

Use the equation to complete the table. Show how you determined the number of cups of flour needed for 14 cakes.

2. Write the inequality that the graph represents. **(6.NS.C.6c)**



x

3. Evaluate $2l + 2w$, when $l = 10.8$ *and* $w = 8.3$. **(6.EE.B.5)**

4. Select all the pairs of numbers that are opposites. **(6.NS.C.6a)**

- ☐ 6 and −6
- ☐ 8 and $\frac{1}{8}$
- ☐ −(−12) and −12
- ☐ 7 and $-\frac{1}{7}$
- ☐ −0.1 and 10

5. Which expression is **NOT** equivalent to 24 + 6*x*? **(6.EE.A.4)**

A. 2(3*x* + 12)

B. 28 + 4*x* - 4 + 2*x*

C. 5*x* + 7 + *x* + 17

D. 3(8 + 3*x*)

6. Find the solution to each equation using inverse operations. **(6.EE.B.7)**

$3k = 48$ k = _____

$\frac{p}{3} = 6$ p = _____

$m + 5 = 9$ m = _____

$c - 12 = 27$ c = _____

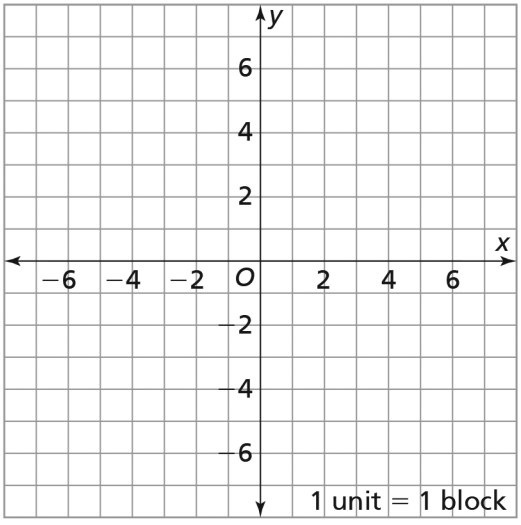
7. Tamera graphs the following point on a coordinate plane. **(6.NS.C.6b)**

P(3, -4)

Which statement is correct?

A. A reflection of *P* across the *x*-axis is at (3, 4).

B. A reflection of *P* across the *y*-axis is at (3, 4).



8. Use the expression shown below. **(6.EE.A.1)**

$4 \times 4 \times 4$

Part A

Fill in the blank to write an equivalent expression using an exponent.

$4\square$

Part B

What is the value of the expression?

9. Use the expression shown below. **(6.EE.A.3)**

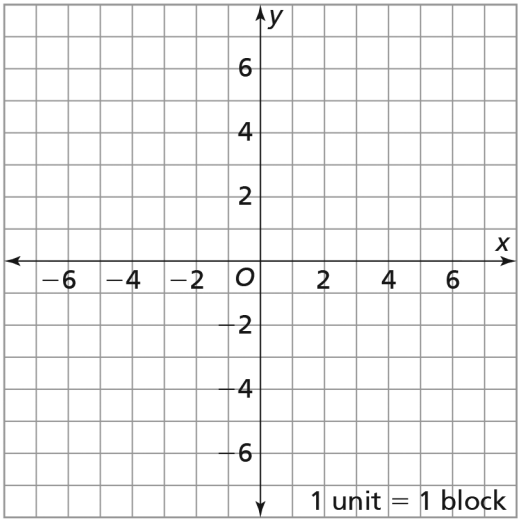
$1.5x + 8 + 0.5x - 3$

Write an equivalent expression by combining like terms.

10. Find the greatest common factor (GCF) of 45 and 75. **(6.NS.B.4)**

11. Plot the ordered pairs below on the coordinate plane. **(6.NS.C.8, 6.G.A.3)**

$A(-5, 5),\ B(-5, -7),\ C(3, -7),\ D(3, 5)$



Part A

What shape did you draw? _____

Part B

Find the Perimeter and area of the shape in Part A.

Perimeter:_____

Area:_____

12. Solve the following expression using order of operations. **(6.EE.A.1)**

$$4^2 + 3 \div 3$$

13. Solve the following division problems. **(6.NS.A.1)**

a. $\frac{1}{4} \div \frac{5}{8} =$

b. $2\frac{1}{3} \div 2 =$

14. Complete the table by writing the parts of the expression below that correspond to the descriptions. **(6.EE.A.2b)**

$4y + 8$

Description of Part *y*	Part of Expression
Variable	
Constant	
Coefficient	
Terms	

15. Find the quotient. **(6.NS.B.2)**

1,107 ÷ 2.7

17. Use $<,\ >,\ or\ =$ to compare the two integers. **(6.NS.A.1)**

−2°C ____−5°C

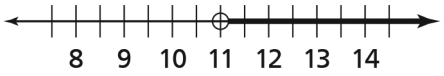
16. Write the algebraic expression for the following situation. **(6.EE.A.2a)**

Twice the number, n, plus 5

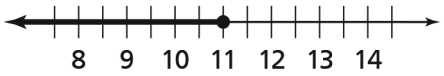
18. Which graph represents the solutions of the inequality $k > 11$? **(6.EE.B.8)**

A.

B.



C.



D.

19. Find the least common multiple (LCM) of 8 and 12. **(6.NS.B.4)**

20. Order the following rational numbers in order from least to greatest. **(6.NS.A.1)**

$$-\frac{3}{4},\ -1\frac{1}{4},\ -\frac{3}{2}, 1\frac{1}{2}$$