

INTEGER ADDITION AND SUBTRACTION (IN2)

Essentials Pre-Assessment

1. Choose all counter diagrams that represent a value of -4 .

A. $++-----$

B. $++++-----$

C. $+++++--$

D. $-----$

2. Record drawings of counters to show each value.

a. A value of 6 using *exactly* 8 counters

b. A value of -5 using *exactly* 9 counters

3. Compute each sum or difference. Use drawings of counters if needed.

a. $6 + (-4) = \underline{\hspace{2cm}}$

b. $-3 + 3 = \underline{\hspace{2cm}}$

c. $-2 + (-3) = \underline{\hspace{2cm}}$

d. $-3 - (-3) = \underline{\hspace{2cm}}$

e. $-3 - 7 = \underline{\hspace{2cm}}$

f. $2 - (-6) = \underline{\hspace{2cm}}$

4. Show or explain why each statement below is true.

a. Adding two negative numbers must always result in a negative sum.

b. $1 - 6$ and $1 + (-6)$ must have the same result.

5. Compute.

a. $30 + (-90)$

b. $-60 - (-40)$

INTEGER MULTIPLICATION AND DIVISION (IN3)
Essentials Pre-Assessment

6. Compute. Draw diagrams as needed.

a. $(5) \cdot (-3)$	b. $(-2) \cdot (5)$	c. $(-3) \cdot (-4)$
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7. Explain why the result for part a above must be negative.

8. Write two division statements, with the same three numbers, that directly relate to $(-6) \cdot (5) = -30$

9. Compute.

d. $(60) \cdot (-4)$	e. $(-20) \cdot (-30)$	f. $(-27) \div (-3)$	g. $\frac{-42}{7}$
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10. Draw a circle around the expression below that is equal to zero and a square around the one that is undefined. Then explain why the undefined expression does not make mathematical sense.

$$\frac{0}{4}$$

$$\frac{4}{0}$$

PROPORTIONAL REASONING APPLICATIONS (PR3)
Essentials Pre-Assessment

11. Jenny biked 3 miles in 15 minutes. Use a table or a double number line to answer the following questions.

- a. At that rate, how far could she go in 2 hours? b. At that rate, how long would it take her to go 15 miles?

12. Circle ALL equations for which $x = 5$ is a solution.

$$\frac{1}{x} = \frac{12}{60}$$

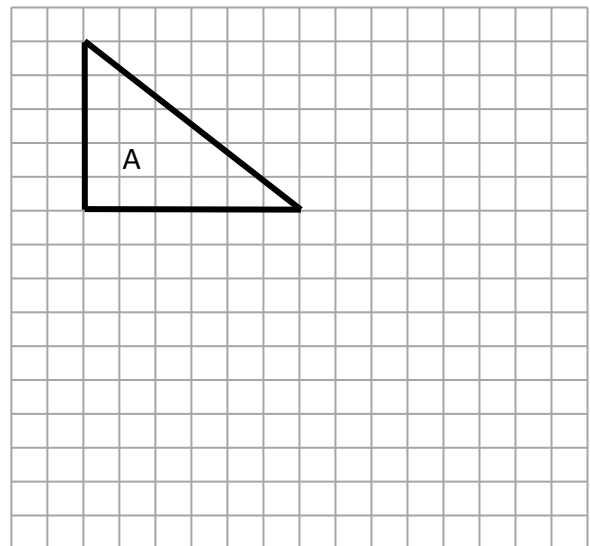
$$\frac{x}{3} = \frac{25}{21}$$

$$\frac{x}{6} = \frac{12}{15}$$

$$\frac{10}{15} = \frac{x}{6}$$

13. Use the grid and triangle to the right.

- a. Draw a scale drawing of the triangle using a scale factor of 2 : 1. Label the triangle B.
- b. Draw a scale drawing of the triangle using a scale factor of 1 : 2. Label the triangle C.



PROPORTIONAL REASONING APPLICATIONS (PR3) Essentials Pre-Assessment Continued

14. Chris bought 3 pounds of cheese at Store A for \$6.75 and 5 pounds of cheese at Store B for \$12.50.

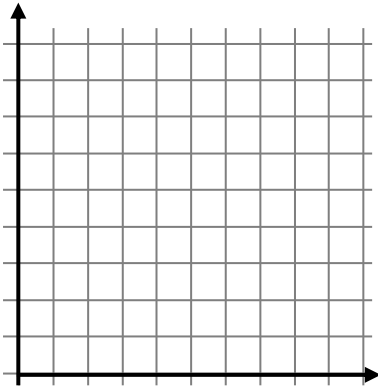
a. Complete the table to show the costs at Store A.

# of pounds (x)	Cost (y)

b. Complete the table to show the costs at Store B.

# of pounds (x)	Cost (y)

c. Graph the data for both stores. Label and scale the axes.



d. Which store offers the better buy? Explain.

e. Using the graph, fill in the ordered pair (1, _____) for Store A. What does this point represent?

Name _____

Period _____

Date _____

**EXPRESSIONS AND BALANCE (EE2)
Essentials Pre-Assessment**

15. Choose ALL expressions below that are equivalent to $2(5 + w)$.

A. $10 + w$

B. $2w + 10$

C. $2w - 10$

D. $w + 5 + w + 5$

16. Choose ALL expressions below that are equivalent to $12y + 8x$.

A. $4(3y + 2x)$

B. $3(4y + 3x)$

C. $4(3y + 8x)$

D. $4(3y + x)$

17. Choose ALL expressions below that are equivalent to $5g - 9 + 2 + 7g$

A. $12g + 11$

B. $-2g + 11$

C. $12g + (-7)$

D. $12g - 7$

18. Write and solve equations for each problem below.

a. The perimeter of a triangle is 103 cm. The second side is 2 cm shorter than the first side. The third side is 5 cm longer than twice the length of the first side. How long is each side?

b. Deni says, "I'm thinking of a number. When you add 8 to my number, multiply the sum by 4, and then subtract 11, the result is 77." What is Deni's number?