

READ: You must show work in order to receive credit.

1. Translate to an algebraic expression or an equation.

One third the difference of a and b

2. Translate to an equation.

When x increased by y , the result is 34.

3. Use the commutative law of addition to write an expression equivalent to $5a + 15$.

4. Use the associative law of multiplication to write an expression equivalent to $(6z)w$.

5. Use the distributive law to factor.

$$27x + 18y - 36$$

6. Find the prime factorization of 720.

7. Insert the proper symbol, $>$, $<$, or $=$ in the blanks to make each statement true.

a. -5.2 _____ -5.24

b. $-(-4)$ _____ $-|-5|$

c. 6.7 _____ $-|-6.7|$

8. Perform each operation without a calculator. Simplify if possible.

a) $-\frac{7}{12} - \frac{7}{8}$

b) $-\left(-\frac{7}{10}\right) + \frac{9}{15}$

c) $\frac{16}{21}\left(-\frac{35}{8}\right)$

d) $-\frac{9}{8} \div \left(-\frac{10}{3}\right)$

e) $-8 - (-9) + 6 - 12$

f) $-1(-4)(3)(-2)$

g) $-3(-7) - |-2^2 - 4(-2)|$

h) $\frac{2\left[(-5)^2 - (3-5)^2\right]}{3(3^2 - 2^3)}$

i) $5^2 - 2[3 + 3(15 - 12)]$

9. Evaluate each expression if $x = -2$ and $y = 3$.

a) $6xy \div x^3$

b) $\frac{3x - y^2}{2x^2y}$

10. Remove parentheses and simplify by combining like terms.

a) $4a + (-2b) - (-a - 7b)$

b) $5(3m - 2) - 4(1 - m)$

c) $-4\{(5x + 3) - [2(x + 1) - 3]\}$