

1. Find the greatest common factor and least common multiple of the following pairs of numbers.

(a) 150 and 510 **30, 2550**

(b) 810 and 96. **6, 12 960**

2. List all factors of 54. **1, 2, 3, 6, 9, 18, 27, 54**

3. Simplify each of the following expressions.

(a)  $\frac{(-2)^2(10 - 6^2 \div (-2)^2)}{|-2 - 2^2| - 2} = 1$

(b)  $(-6)^2 \div (-6) - |-3^2 + 5| - \frac{(-2 - 3(-4))}{-5} = -8$

(c)  $\frac{4(-3 + 2) - |2 - 3^2 + 1|}{3 - 2^2} = 10$

4. Evaluate  $\frac{2x + 16x^2 - 5}{2x - 1}$  ( $= 8x + 5$ ) if

(a)  $x = -2$  **- 11**

(b)  $x = 2$  **21**

(c)  $x = 0$  **5**

5. Solve each of the following equations. Make sure to check your solution.

(a)  $4x - 7 = 10x + 5$  **- 2**

(b)  $\frac{3x + 1}{2} = -7$  **- 5**

(c)  $2x - 5 = 13 - x$  **6**

6. One side of a rectangle is 7 in longer than three times the other side. The perimeter of the rectangle is 38 in. Find the sides. **3 and 16**

7. The sum of two numbers is 17. Their difference is 89. Find the numbers. **- 36 and 53**

8. Sarah is 3 years younger than her brother. Find his age if the sum of their ages is 17. **10**

9. Three consecutive numbers add up to -42. Find these numbers. **- 15, - 14, - 13**

10. Find the perimeter and area of the rectangle determined by the points  $A(-2, -5)$ ,  $B(3, -5)$ ,  $C(-2, 1)$ , and  $D(3, 1)$ .  **$P = 22$  units,  $A = 30$  unit<sup>2</sup>.**