

1. Use digits to write the number two hundred seventeen billion, thirty-five million, four hundred two thousand, eleven. **217 035 402 011**

2. The following number is written in expanded form. Write it in standard form. **71 672 080**

$$7 \cdot 10\,000\,000 + 1 \cdot 1\,000\,000 + 6 \cdot 100\,000 + 7 \cdot 10\,000 + 2 \cdot 1\,000 + 8 \cdot 10$$

3. Round 303 478 to the nearest

(a) ten **303 480**

(b) ten thousand. **300 000**

4. Two sides of a rectangle are 45 cm and 15 cm long.

(a) Find the perimeter of the rectangle. Include units in your answer.  **$P = 120$  cm**

(b) Find the area of the rectangle. Include units in your answer.  **$A = 675$  cm<sup>2</sup>**

5. Consider the following numbers: 7008, 8701, 444, 3540, 3050.

(a) Find all numbers from the list that are divisible by 5. **3540, 3050**

(b) Find all numbers from the list that are divisible by 6. **7008, 444, 3540**

(c) Find all numbers from the list that are divisible by 30. **3540**

6. List all factors of 190. **1, 2, 5, 10, 19, 38, 95, 190**

7. Find the least common multiple of 160 and 220. **1760**

8. Find the average of -8, 11, -15, 21, -32, and -1. **-4**

9. Perform the indicated operations. Show all steps.

(a)  $-2[3 - 2(-3)] - (3 - 2)(-2) =$  **-16**

(b)  $-3(-2|-7|) + 5(-7 + 2^2) =$  **27**

(c)  $-|-3|(2 - 5) - (-(-3)) =$  **6**

(d)  $\frac{(-2)^2 + (-2)^3 - 3(-1)^2}{-3 - (-2)} =$  **7**

(e)  $-3 - (-2) - 3(-2 + 2^2 + 8 - 6 + 1) + 2|-3| =$  **-10**

10. Evaluate each of the following expressions if  $a = -4$ ,  $b = 3$ , and  $c = -1$

(a)  $|a| + |b| =$  **7**

(b)  $|a + b| =$  **1**

(c)  $b^2 - 4ac =$  **-7**

(d)  $5a - 2abc + 3c^2 =$  **-4**

(e)  $\frac{2a^2 + 11a - 21}{2a - 3} =$  **3**

(f)  $-(a + b)(-a + bc) = 1$

(g)  $\frac{c - 2(3b - a)}{(a - c)^3} = 1$

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

(a)  $-5x = -25$     5

(b)  $p + (-7) = -2$     5

(c)  $\frac{z}{11} = -2$     -22

(d)  $w + 6 = -1$     -7