

1. Perform the division with remainder: $385 \div 13 =$
2. List all factors of 60.
3. Find the average of -5 , 13 , 0 , 4 , and -2 .
4. Simplify each of the following expressions. Show all steps.

(a) $\sqrt{169} - \sqrt{144} =$

(b) $\sqrt{169 - 144} =$

(c) $\left| -2^2 - 3(5 - (-3)^2) \right| =$

(d) $\left| -2^2 - 3 \left| 5 - (-3)^2 \right| \right| =$

(e) $\sqrt{(-1)^4 - 2 \cdot 3^2 \div (-2) \cdot 6 + (-3)^2} =$

(f) $\left| -3^2 + 3 - \left| (-6)^2 + (-2)^3 \right| - 2 \right| + 1 =$

(g) $(-5)^2 - \left| -5^2 - 6(-4) \right| - 10 =$

(h) $\left(\left((3 - 5)^2 - 6 \right)^2 - 4 \right)^2 - 2 =$

(i) $\sqrt{-7^2 + 15(2)^2 - 18 \div 3 \div 3} =$

(j) $\frac{-2 + 5(3 - (-2)^2)}{-1^5 - (-1)^5} =$

(k) $\frac{-6^2 \div 2 \cdot 3 + |2^2 \cdot 12 - 11| + 2(-1)^3 - (-1)^2}{(-2)^2 + (-2)^3} =$

5. Simplify each of the following expressions. Show all steps.

(a) $x^2 \cdot x^3 =$

(b) $(x^2)^3 =$

(c) $\frac{x^{10}}{x^2} =$

(d) $(2a)^2 a^3 =$

(e) $2a^2 a^3 =$

6. Evaluate each of the following expressions when $a = -6$ and $b = 5$.

(a) $-a + 2b =$

(b) $b^2 - a^2 =$

(c) $2b - 3ab =$

(d) $\frac{b^3 - a^3}{b - a} =$

(e) $-a - a^2 - a^3 =$

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7. Consider the equation $x^3 - x^2 - 6(x - 1) = -x + x^2$. In case of each number given, determine whether it is a solution of the equation or not.
- (a) $x = 0$
 - (b) $x = 1$
 - (c) $x = -1$
 - (d) $x = 2$
 - (e) $x = -2$
 - (f) $x = 3$
 - (g) $x = -3$
8. Consider the graph of the equation $x^2 - 2y^2 + y + 15 = -5x$. For each point given, determine if it is on the graph of the equation or not.
- (a) $(0, 3)$
 - (b) $(1, -2)$
 - (c) $(1, -3)$
9. Two angles in a triangle are $\alpha = 38^\circ$ and $\gamma = 67^\circ$.
- (a) Find the measure of the third angle, β .
 - (b) Which side is shortest in the triangle?