

1. List all the factors of 98.
2. Which one of the following numbers is a prime?

39, 49, 59, 69, 99

3. Perform the following division. Show both the quotient and the remainder. $2011 \div 11$
4. Perform the following operations. Show all steps.

a) $|12 - 2| - 3|$ d) $-5(4 - 3(-2))$ g) $\frac{3(-4^2 - 2 \cdot 7)}{2^3 - (-1)^3} + 4 - 2(3^3 - (-5)^2)$

b) $|12 - |2 - 3||$ e) $2((5^2 - (-4)^2) - 10)^2 - 11$

c) $|12|-2-3|$ f) $-2 + (-2)^2 + (-2)^3$

5. Simplify each of the following.

a) $x^2 \cdot x^3$ d) $(-2a^4b^5)^3(3a^{-2}b)^2$ g) $\frac{x^2 - 4}{3x + 6}$ j) $(2\sqrt{3} - 1)^2$

b) $(x^2)^3$ e) $3(2a - 1) - 4(a - 3)$ h) $\frac{2x^2 - 18x}{x^2 + 9x}$ k) $\sqrt{48} - 2\sqrt{75} + 3\sqrt{12}$

c) $\frac{(2ab^2)^3}{(2a^3b)^2}$ f) $2x - 5 - (x - 1)^2$ i) $(3\sqrt{5} - 2)(2\sqrt{5} + 1)$ l) $(3\sqrt{5} + 8)(3\sqrt{5} - 8)$

6. Find the exact value of $x^2 - 6x + 11$ if

a) $x = \sqrt{2} - 1$ b) $x = \sqrt{10} + 3$ c) $x = 2\sqrt{5} - 3$

7. Graph each of the following.

a) $y = -x + 1$ b) $y = \frac{2}{3}x - 4$ c) $2x + 3y = 12$

8. Completely factor each of the following or state if it doesn't factor.

a) $a^{10} - 1$ c) $-75x + 3x^3$ e) $50p^6 - 2q^4$

b) $6x^3 - 2x^2$ d) $x^2 + 25$ f) $s^4 - 16$

9. Solve each of the following equations. Make sure to check your solution(s).

a) $2x^3 = 18x$ c) $3(x + 8)(2x - 5) = 0$

b) $2x^3 = 18x^2$ d) $3x(x + 8)(2x - 5) = 0$