

1. (98) The area of a rectangular carpet is 54 square feet. The length is 3 feet more than the width. What are the length and width of the carpet?

2. (96) Graph the function $y = x^2 + 2x + 1$.

Simplify problems 3–4.

3. (92)
$$\frac{\frac{m}{x}}{\frac{n}{m+x}}$$

4. (78) $\sqrt{2}(\sqrt{10} - \sqrt{6})$

5. (86) Find the distance between the points (6, -4) and (1, 1).

6. (84) Determine whether the graph of each function below opens upward or downward.

$$f(x) = 4x^2$$

$$f(x) = -4x^2$$

7. (100) Solve the equation below by graphing the related function.

$$x^2 - 9 = 0$$

8. (97) Determine whether the ordered pair (0, 1) is a solution of the inequality $y > 3x - 2$.

Factor the polynomials in problems 9–10.

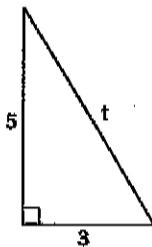
9. (79) $-x^2 - x + 12$

10. (87) $24a^3b + 24a^3 - 18a^2b - 18a^2$

11. (99) It takes Ann 3 hours to rake a yard. It takes Linda 2 hours to rake a yard. How long will it take them if they work together?

12. (89) Find the axis of symmetry for the quadratic function $y = -3x^2 - 6x - 4$.

13. (85) Find side length t to the nearest tenth.



14. (94) Solve the equation.

$$\frac{3|x|}{6} + 4 = 2$$

15. (93) Divide $(x^2 - 10x + 25) \div (x - 5)$.

16. (88) Multiply $\frac{4x^2y + xy}{9x} \cdot \frac{15}{4xy + y}$.

17. (95) Add $\frac{3x^2}{x^2 - 9} + \frac{x - 2}{2x - 6}$.

Solve the inequalities in problems 18–20 and graph them on a number line.

18. (81) $3(x - 4) - x > 8 - 2(4x - 5)$

19. (82) $-4 < x + 5 + 2x \leq 11$

20. (91) $\frac{|x|}{3} > 1$