

Homework 1.7 Factoring Quadratics Part 1

Factor each quadratic expression.

1. $5x^2 + 15x$

2. $2x^2 - 4x$

3. $4x + 6y$

4. $10x + 45$

5. $x^2 - 64$

6. $a^2 - 9$

7. $b^2 - 8b + 15$

8. $m^2 - 16m + 63$

9. $k^2 - 4k - 60$

10. $m^2 + m - 6$

11. $p^2 - 2p - 15$

12. $r^2 + r - 20$

13. $3r^2 + 21r + 30$

14. $2p^2 + 14p + 24$

15. $2r^2 - 16r + 30$

16. $3n^2 - 9n + 6$

17. $3b^2 - 3b - 36$

18. $2n^2 + 2n - 12$

19. The area of a rectangle is represented by the expression $p^2 + 3p - 18$. The length is given as $(p + 6)$. What is an expression for the width?

Factor each quadratic expression.

1. $5x^2 + 15x$

$$= 5x(x + 3)$$

2. $2x^2 - 4x$

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

3. $4x + 6y$

$$= 2(2x + 3y)$$

4. $10x + 45$

$$= 5(2x + 9)$$

5. $x^2 - 64$

$$= (x - 8)(x + 8)$$

6. $a^2 - 9$

$$= (a - 3)(a + 3)$$

7. $b^2 - 8b + 15$

$$= (b - 5)(b - 3)$$

8. $m^2 - 16m + 63$

$$= (m - 9)(m - 7)$$

9. $k^2 - 4k - 60$

$$= (k + 6)(k - 10)$$

10. $m^2 + m - 6$

$$= (m + 3)(m - 2)$$

11. $p^2 - 2p - 15$

$$= (p - 5)(p + 3)$$

12. $r^2 + r - 20$

$$= (r - 4)(r + 5)$$

13. $3r^2 + 21r + 30$

$$= 3(r + 2)(r + 5)$$

14. $2p^2 + 14p + 24$

$$= 2(p + 4)(p + 3)$$

15. $2r^2 - 16r + 30$

$$= 2(r - 3)(r - 5)$$

16. $3n^2 - 9n + 6$

$$= 3(n - 2)(n - 1)$$

17. $3b^2 - 3b - 36$

$$= 3(b + 3)(b - 4)$$

18. $2n^2 + 2n - 12$

$$= 2(n + 3)(n - 2)$$

19. The area of a rectangle is represented by the expression $p^2 + 3p - 18$. The length is given as $(p + 6)$. What is an expression for the width?

$$= (p - 3)$$