Simple Expansion (A)

Use the distributive property to simply each expression.

$2w(-6w - 1)$

$7x(-3x - 5)$

$-6(8 - 2r)$

$-3(-9 + 8r)$

$2(6v - 1)$

$2b(9b - 6)$

$7n(-8n + 2)$

$(3n + 3)6$

$-6d(4 + 5d)$

$-4p(-3p - 4)$

$-9k(-7k + 7)$

$(-4 - 4f)(-4)$

$2t(-t - 8)$

$-5(-9 - 9w)$

$-2c(7c + 9)$

$2k(-2 + 8k)$

$2(-9 + 7g)$

$(7 + 2h)(-7)$

$(-5x - 3)5$

$4h(-7 + 3h)$

Simple Expansion(A) Answers

Use the distributive property to simply each expression.

$2w(-6w - 1)$
$-12w^2 - 2w$

$7x(-3x - 5)$
$-21x^2 - 35x$

$-6(8 - 2r)$
$12r - 48$

$-3(-9 + 8r)$
$-24r + 27$

$2(6v - 1)$
$12v - 2$

$2b(9b - 6)$
$18b^2 - 12b$

$7n(-8n + 2)$
$-56n^2 + 14n$

$(3n + 3)6$
$18n + 18$

$-6d(4 + 5d)$
$-30d^2 - 24d$

$-4p(-3p - 4)$
$12p^2 + 16p$

$-9k(-7k + 7)$
$63k^2 - 63k$

$(-4 - 4f)(-4)$
$16f + 16$

$2t(-t - 8)$
$-2t^2 - 16t$

$-5(-9 - 9w)$
$45w + 45$

$-2c(7c + 9)$
$-14c^2 - 18c$

$2k(-2 + 8k)$
$16k^2 - 4k$

$2(-9 + 7g)$
$14g - 18$

$(7 + 2h)(-7)$
$-14h - 49$

$(-5x - 3)5$
$-25x - 15$

$4h(-7 + 3h)$
$12h^2 - 28h$

Simple Expansion (B)

Use the distributive property to simply each expression.

$-6t(-7t + 9)$

$-(-5a + 9)$

$(-4 - 5z)4$

$(-p + 1)(-6)$

$(-3t + 7)(-6)$

$-5(9 - 6b)$

$v(8v - 8)$

$-5q(-3 - 5q)$

$2y(-7y - 5)$

$7(-2 - 8j)$

$-6(9j - 6)$

$-6x(-2 - 7x)$

$6(5 - w)$

$2(9f + 3)$

$5(-3 + 9v)$

$-3(8p + 5)$

$-8(-a - 8)$

$3b(-9 - 7b)$

$2(-5 + 5w)$

$w(6 - 3w)$

Simple Expansion (B) Answers

Use the distributive property to simply each expression.

-6t(-7t + 9)
$42t^2 - 54t$

-(-5a + 9)
5a - 9

(-4 - 5z)4
-20z - 16

(-p + 1)(-6)
6p - 6

(-3t + 7)(-6)
18t - 42

-5(9 - 6b)
30b - 45

v(8v - 8)
$8v^2 - 8v$

-5q(-3 - 5q)
$25q^2 + 15q$

2y(-7y - 5)
$-14y^2 - 10y$

7(-2 - 8j)
-56j - 14

-6(9j - 6)
-54j + 36

-6x(-2 - 7x)
$42x^2 + 12x$

6(5 - w)
-6w + 30

2(9f + 3)
18f + 6

5(-3 + 9v)
45v - 15

-3(8p + 5)
-24p - 15

-8(-a - 8)
8a + 64

3b(-9 - 7b)
$-21b^2 - 27b$

2(-5 + 5w)
10w - 10

w(6 - 3w)
$-3w^2 + 6w$

Simple Expansion (C)

Use the distributive property to simply each expression.

$2w(-8w - 3)$

$5k(-9 + 9k)$

$-2c(8c - 6)$

$9(3a + 5)$

$9g(3g + 7)$

$7(-3 - 6w)$

$-3(7 - 6d)$

$-2(-y - 6)$

$-2q(8 + 7q)$

$-4x(x - 6)$

$-5f(-9f + 5)$

$(6p + 8)(-1)$

$-(3 - 8w)$

$(9x + 5)$

$-8(4n - 7)$

$(-9b + 7)(-3)$

$(j - 4)(-2)$

$-8(-3 - 2h)$

$8w(8w + 1)$

$-2r(-8r - 4)$

Simple Expansion (C) Answers

Use the distributive property to simply each expression.

$2w(-8w - 3)$
$-16w^2 - 6w$

$5k(-9 + 9k)$
$45k^2 - 45k$

$-2c(8c - 6)$
$-16c^2 + 12c$

$9(3a + 5)$
$27a + 45$

$9g(3g + 7)$
$27g^2 + 63g$

$7(-3 - 6w)$
$-42w - 21$

$-3(7 - 6d)$
$18d - 21$

$-2(-y - 6)$
$2y + 12$

$-2q(8 + 7q)$
$-14q^2 - 16q$

$-4x(x - 6)$
$-4x^2 + 24x$

$-5f(-9f + 5)$
$45f^2 - 25f$

$(6p + 8)(-1)$
$-6p - 8$

$-(3 - 8w)$
$8w - 3$

$(9x + 5)$
$9x + 5$

$-8(4n - 7)$
$-32n + 56$

$(-9b + 7)(-3)$
$27b - 21$

$(j - 4)(-2)$
$-2j + 8$

$-8(-3 - 2h)$
$16h + 24$

$8w(8w + 1)$
$64w^2 + 8w$

$-2r(-8r - 4)$
$16r^2 + 8r$

Simple Expansion (D)

Use the distributive property to simply each expression.

$-2z(-8 + 7z)$

$y(-4y + 8)$

$-5r(9 - 6r)$

$d(9d - 1)$

$6(-9j - 5)$

$4(-6b - 6)$

$(3 + 8j)9$

$4a(-8a + 9)$

$6d(5 - 7d)$

$(8 + 2z)7$

$(-2w + 7)(-8)$

$-3w(-7 + 9w)$

$-9k(-1 + k)$

$8(8x + 2)$

$(-9 + 9c)7$

$(2 - 9y)2$

$(-6 - 9p)$

$(d + 5)3$

$5v(-4 - 2v)$

$(-6k + 8)7$

Simple Expansion (D) Answers

Use the distributive property to simply each expression.

-2z(-8 + 7z)
$-14z^2 + 16z$

y(-4y + 8)
$-4y^2 + 8y$

-5r(9 - 6r)
$30r^2 - 45r$

d(9d - 1)
$9d^2 - 1d$

6(-9j - 5)
-54j - 30

4(-6b - 6)
-24b - 24

(3 + 8j)9
72j + 27

4a(-8a + 9)
$-32a^2 + 36a$

6d(5 - 7d)
$-42d^2 + 30d$

(8 + 2z)7
14z + 56

(-2w + 7)(-8)
16w - 56

-3w(-7 + 9w)
$-27w^2 + 21w$

-9k(-1 + k)
$-9k^2 + 9k$

8(8x + 2)
64x + 16

(-9 + 9c)7
63c - 63

(2 - 9y)2
-18y + 4

(-6 - 9p)
-9p - 6

(d + 5)3
3d + 15

5v(-4 - 2v)
$-10v^2 - 20v$

(-6k + 8)7
-42k + 56

Simple Expansion (E)

Use the distributive property to simply each expression.

$9g(2g + 5)$

$4v(7v + 5)$

$-6p(-1 - 7p)$

$f(-3 + f)$

$8(-9 + 5d)$

$4n(-1 - 7n)$

$6(7b - 7)$

$4x(-3 - 4x)$

$-2n(-n - 5)$

$(9 + 5r)(-1)$

$(-9 - 4v)(-5)$

$8m(-3m + 4)$

$(-4d + 1)8$

$-(-8b + 7)$

$5(7q + 5)$

$7(3 + 8w)$

$-8(-6 + 7n)$

$-9(k - 3)$

$-3c(9c + 2)$

$-8w(-4 + 7w)$

Simple Expansion (E) Answers

Use the distributive property to simply each expression.

$9g(2g + 5)$
$18g^2 + 45g$

$(-9 - 4v)(-5)$
$20v + 45$

$4v(7v + 5)$
$28v^2 + 20v$

$8m(-3m + 4)$
$-24m^2 + 32m$

$-6p(-1 - 7p)$
$42p^2 + 6p$

$(-4d + 1)8$
$-32d + 8$

$f(-3 + f)$
$1f^2 - 3f$

$-(-8b + 7)$
$8b - 7$

$8(-9 + 5d)$
$40d - 72$

$5(7q + 5)$
$35q + 25$

$4n(-1 - 7n)$
$-28n^2 - 4n$

$7(3 + 8w)$
$56w + 21$

$6(7b - 7)$
$42b - 42$

$-8(-6 + 7n)$
$-56n + 48$

$4x(-3 - 4x)$
$-16x^2 - 12x$

$-9(k - 3)$
$-9k + 27$

$-2n(-n - 5)$
$2n^2 + 10n$

$-3c(9c + 2)$
$-27c^2 - 6c$

$(9 + 5r)(-1)$
$-5r - 9$

$-8w(-4 + 7w)$
$-56w^2 + 32w$

Factoring Expressions (A)

Factor each expression.

1. $9a - 18$
2. $4a^2 - 16a$
3. $6b^2 + 12b$
4. $9b^2 + 27b$
5. $3b + 12$
6. $4x^2 - 20x$
7. $7c^2 + 56c$
8. $b^2 + b$
9. $8b - 48$
10. $4x + 36$
11. $2b^2 - 12b$
12. $2b^2 + 18b$
13. $6c - 30$
14. $8b^2 + 32b$
15. $6b^2 - 6b$
16. $2a - 12$
17. $6a^2 + 48a$
18. $8x - 32$
19. $8a^2 - 72a$
20. $a^2 - 2a$
21. $4y + 20$
22. $7b + 49$
23. $a^2 + 5a$
24. $9z - 72$
25. $4c + 4$
26. $6a + 42$
27. $9b^2 + 9b$
28. $5a - 30$
29. $3a^2 + 27a$
30. $c^2 - 5c$

Factoring Expressions (A) Answers

Factor each expression.

1. $9a - 18$
   $9(a - 2)$

2. $4a^2 - 16a$
   $4a(a - 4)$

3. $6b^2 + 12b$
   $6b(b + 2)$

4. $9b^2 + 27b$
   $9b(b + 3)$

5. $3b + 12$
   $3(b + 4)$

6. $4x^2 - 20x$
   $4x(x - 5)$

7. $7c^2 + 56c$
   $7c(c + 8)$

8. $b^2 + b$
   $b(b + 1)$

9. $8b - 48$
   $8(b - 6)$

10. $4x + 36$
    $4(x + 9)$

11. $2b^2 - 12b$
    $2b(b - 6)$

12. $2b^2 + 18b$
    $2b(b + 9)$

13. $6c - 30$
    $6(c - 5)$

14. $8b^2 + 32b$
    $8b(b + 4)$

15. $6b^2 - 6b$
    $6b(b - 1)$

16. $2a - 12$
    $2(a - 6)$

17. $6a^2 + 48a$
    $6a(a + 8)$

18. $8x - 32$
    $8(x - 4)$

19. $8a^2 - 72a$
    $8a(a - 9)$

20. $a^2 - 2a$
    $a(a - 2)$

21. $4y + 20$
    $4(y + 5)$

22. $7b + 49$
    $7(b + 7)$

23. $a^2 + 5a$
    $a(a + 5)$

24. $9z - 72$
    $9(z - 8)$

25. $4c + 4$
    $4(c + 1)$

26. $6a + 42$
    $6(a + 7)$

27. $9b^2 + 9b$
    $9b(b + 1)$

28. $5a - 30$
    $5(a - 6)$

29. $3a^2 + 27a$
    $3a(a + 9)$

30. $c^2 - 5c$
    $c(c - 5)$

Factoring Expressions (B)

Factor each expression.

1. $6y - 42$
2. $3z - 27$
3. $3c - 18$
4. $6c^2 + 12c$
5. $6z^2 - 6z$
6. $5c - 20$
7. $6x^2 - 48x$
8. $9y - 45$
9. $6y + 36$
10. $7y - 35$
11. $2y^2 + 16y$
12. $6a^2 + 42a$
13. $6z + 24$
14. $2y^2 - 2y$
15. $2z^2 - 12z$
16. $6c - 36$
17. $9x - 72$
18. $7y + 28$
19. $5x^2 - 35x$
20. $2z^2 + 16z$
21. $9a^2 + 18a$
22. $6c^2 - 18c$
23. $3y^2 + 18y$
24. $9x^2 - 9x$
25. $9c^2 + 27c$
26. $5x^2 - 10x$
27. $5x^2 + 45x$
28. $6x - 18$
29. $5x - 35$
30. $5a^2 + 20a$

Factoring Expressions (B) Answers

Factor each expression.

1. $6y - 42$
   $6(y - 7)$

2. $3z - 27$
   $3(z - 9)$

3. $3c - 18$
   $3(c - 6)$

4. $6c^2 + 12c$
   $6c(c + 2)$

5. $6z^2 - 6z$
   $6z(z - 1)$

6. $5c - 20$
   $5(c - 4)$

7. $6x^2 - 48x$
   $6x(x - 8)$

8. $9y - 45$
   $9(y - 5)$

9. $6y + 36$
   $6(y + 6)$

10. $7y - 35$
    $7(y - 5)$

11. $2y^2 + 16y$
    $2y(y + 8)$

12. $6a^2 + 42a$
    $6a(a + 7)$

13. $6z + 24$
    $6(z + 4)$

14. $2y^2 - 2y$
    $2y(y - 1)$

15. $2z^2 - 12z$
    $2z(z - 6)$

16. $6c - 36$
    $6(c - 6)$

17. $9x - 72$
    $9(x - 8)$

18. $7y + 28$
    $7(y + 4)$

19. $5x^2 - 35x$
    $5x(x - 7)$

20. $2z^2 + 16z$
    $2z(z + 8)$

21. $9a^2 + 18a$
    $9a(a + 2)$

22. $6c^2 - 18c$
    $6c(c - 3)$

23. $3y^2 + 18y$
    $3y(y + 6)$

24. $9x^2 - 9x$
    $9x(x - 1)$

25. $9c^2 + 27c$
    $9c(c + 3)$

26. $5x^2 - 10x$
    $5x(x - 2)$

27. $5x^2 + 45x$
    $5x(x + 9)$

28. $6x - 18$
    $6(x - 3)$

29. $5x - 35$
    $5(x - 7)$

30. $5a^2 + 20a$
    $5a(a + 4)$

Factoring Expressions (C)

Factor each expression.

1. $7c - 56$
2. $7b^2 - 56b$
3. $9b^2 - 63b$
4. $2c^2 - 10c$
5. $3y^2 + 15y$
6. $8x - 72$
7. $6y - 42$
8. $6c - 6$
9. $7z^2 - 49z$
10. $9a^2 - 36a$
11. $9z - 45$
12. $9z^2 + 54z$
13. $8z + 32$
14. $8x + 24$
15. $y^2 + 6y$
16. $8b^2 + 32b$
17. $9b - 63$
18. $7a^2 + 63a$
19. $8y - 24$
20. $9a - 27$
21. $3x^2 + 9x$
22. $4y^2 - 24y$
23. $2z + 14$
24. $9x^2 - 36x$
25. $7y + 49$
26. $8z^2 - 8z$
27. $9c + 72$
28. $3c - 27$
29. $7y^2 - 14y$
30. $9x^2 + 72x$

Factoring Expressions (C) Answers

Factor each expression.

1. $7c - 56$
   $7(c - 8)$

2. $7b^2 - 56b$
   $7b(b - 8)$

3. $9b^2 - 63b$
   $9b(b - 7)$

4. $2c^2 - 10c$
   $2c(c - 5)$

5. $3y^2 + 15y$
   $3y(y + 5)$

6. $8x - 72$
   $8(x - 9)$

7. $6y - 42$
   $6(y - 7)$

8. $6c - 6$
   $6(c - 1)$

9. $7z^2 - 49z$
   $7z(z - 7)$

10. $9a^2 - 36a$
    $9a(a - 4)$

11. $9z - 45$
    $9(z - 5)$

12. $9z^2 + 54z$
    $9z(z + 6)$

13. $8z + 32$
    $8(z + 4)$

14. $8x + 24$
    $8(x + 3)$

15. $y^2 + 6y$
    $y(y + 6)$

16. $8b^2 + 32b$
    $8b(b + 4)$

17. $9b - 63$
    $9(b - 7)$

18. $7a^2 + 63a$
    $7a(a + 9)$

19. $8y - 24$
    $8(y - 3)$

20. $9a - 27$
    $9(a - 3)$

21. $3x^2 + 9x$
    $3x(x + 3)$

22. $4y^2 - 24y$
    $4y(y - 6)$

23. $2z + 14$
    $2(z + 7)$

24. $9x^2 - 36x$
    $9x(x - 4)$

25. $7y + 49$
    $7(y + 7)$

26. $8z^2 - 8z$
    $8z(z - 1)$

27. $9c + 72$
    $9(c + 8)$

28. $3c - 27$
    $3(c - 9)$

29. $7y^2 - 14y$
    $7y(y - 2)$

30. $9x^2 + 72x$
    $9x(x + 8)$

Factoring Expressions (D)

Factor each expression.

1. $3y^2 - 27y$
2. $6c^2 + 42c$
3. $3a - 24$
4. $9z^2 + 45z$
5. $8z - 40$
6. $b^2 - 5b$
7. $6c^2 + 12c$
8. $2b^2 + 14b$
9. $9z - 54$
10. $7c - 14$
11. $2c^2 - 4c$
12. $9a^2 - 45a$
13. $5a - 45$
14. $9b + 81$
15. $6a - 24$
16. $7y^2 + 63y$
17. $3y + 24$
18. $4y^2 + 36y$
19. $4b - 36$
20. $7x^2 - 14x$
21. $3c^2 + 6c$
22. $9a + 36$
23. $7z^2 - 49z$
24. $7y^2 - 63y$
25. $8a^2 + 24a$
26. $9b - 54$
27. $5c^2 + 25c$
28. $5c^2 + 10c$
29. $4b^2 + 28b$
30. $6x - 48$

Factoring Expressions (D) Answers

Factor each expression.

1. $3y^2 - 27y$
   $3y(y - 9)$

2. $6c^2 + 42c$
   $6c(c + 7)$

3. $3a - 24$
   $3(a - 8)$

4. $9z^2 + 45z$
   $9z(z + 5)$

5. $8z - 40$
   $8(z - 5)$

6. $b^2 - 5b$
   $b(b - 5)$

7. $6c^2 + 12c$
   $6c(c + 2)$

8. $2b^2 + 14b$
   $2b(b + 7)$

9. $9z - 54$
   $9(z - 6)$

10. $7c - 14$
    $7(c - 2)$

11. $2c^2 - 4c$
    $2c(c - 2)$

12. $9a^2 - 45a$
    $9a(a - 5)$

13. $5a - 45$
    $5(a - 9)$

14. $9b + 81$
    $9(b + 9)$

15. $6a - 24$
    $6(a - 4)$

16. $7y^2 + 63y$
    $7y(y + 9)$

17. $3y + 24$
    $3(y + 8)$

18. $4y^2 + 36y$
    $4y(y + 9)$

19. $4b - 36$
    $4(b - 9)$

20. $7x^2 - 14x$
    $7x(x - 2)$

21. $3c^2 + 6c$
    $3c(c + 2)$

22. $9a + 36$
    $9(a + 4)$

23. $7z^2 - 49z$
    $7z(z - 7)$

24. $7y^2 - 63y$
    $7y(y - 9)$

25. $8a^2 + 24a$
    $8a(a + 3)$

26. $9b - 54$
    $9(b - 6)$

27. $5c^2 + 25c$
    $5c(c + 5)$

28. $5c^2 + 10c$
    $5c(c + 2)$

29. $4b^2 + 28b$
    $4b(b + 7)$

30. $6x - 48$
    $6(x - 8)$

Factoring Expressions (E)

Factor each expression.

1. $7c + 49$
2. $3a - 21$
3. $5c + 30$
4. $4b^2 - 28b$
5. $6y^2 + 36y$
6. $2b^2 + 12b$
7. $2z + 6$
8. $2c^2 + 16c$
9. $7x - 35$
10. $2c^2 - 18c$
11. $4x - 16$
12. $6x - 48$
13. $7c^2 + 63c$
14. $4x + 36$
15. $3a - 15$
16. $5x^2 - 25x$
17. $2x^2 - 10x$
18. $4b + 20$
19. $9z^2 - 45z$
20. $7x^2 - 42x$
21. $2z^2 - 2z$
22. $4y - 16$
23. $9b - 36$
24. $2b - 16$
25. $2b^2 - 16b$
26. $9x^2 - 72x$
27. $9c - 81$
28. $5b^2 - 15b$
29. $9x - 63$
30. $7a^2 + 49a$

Factoring Expressions (E) Answers

Factor each expression.

1. $7c + 49$
   $7(c + 7)$

2. $3a - 21$
   $3(a - 7)$

3. $5c + 30$
   $5(c + 6)$

4. $4b^2 - 28b$
   $4b(b - 7)$

5. $6y^2 + 36y$
   $6y(y + 6)$

6. $2b^2 + 12b$
   $2b(b + 6)$

7. $2z + 6$
   $2(z + 3)$

8. $2c^2 + 16c$
   $2c(c + 8)$

9. $7x - 35$
   $7(x - 5)$

10. $2c^2 - 18c$
    $2c(c - 9)$

11. $4x - 16$
    $4(x - 4)$

12. $6x - 48$
    $6(x - 8)$

13. $7c^2 + 63c$
    $7c(c + 9)$

14. $4x + 36$
    $4(x + 9)$

15. $3a - 15$
    $3(a - 5)$

16. $5x^2 - 25x$
    $5x(x - 5)$

17. $2x^2 - 10x$
    $2x(x - 5)$

18. $4b + 20$
    $4(b + 5)$

19. $9z^2 - 45z$
    $9z(z - 5)$

20. $7x^2 - 42x$
    $7x(x - 6)$

21. $2z^2 - 2z$
    $2z(z - 1)$

22. $4y - 16$
    $4(y - 4)$

23. $9b - 36$
    $9(b - 4)$

24. $2b - 16$
    $2(b - 8)$

25. $2b^2 - 16b$
    $2b(b - 8)$

26. $9x^2 - 72x$
    $9x(x - 8)$

27. $9c - 81$
    $9(c - 9)$

28. $5b^2 - 15b$
    $5b(b - 3)$

29. $9x - 63$
    $9(x - 7)$

30. $7a^2 + 49a$
    $7a(a + 7)$

Multiplying Factors (A)

Find the product of each pair of factors.

1. $(x + 8)(x - 2)$
2. $(x + 4)(x - 9)$
3. $(x - 7)(x + 4)$
4. $(x - 9)(x + 4)$
5. $(x + 9)(x + 3)$
6. $(x - 5)(x - 1)$
7. $(x - 3)(x - 3)$
8. $(x - 9)(x + 2)$
9. $(x - 1)(x + 6)$
10. $(x + 7)(x - 4)$
11. $(x + 9)(x - 8)$
12. $(x + 6)(x - 3)$
13. $(x + 5)(x - 9)$
14. $(x + 1)(x - 5)$
15. $(x + 7)(x + 4)$
16. $(x - 2)(x - 2)$
17. $(x - 9)(x + 2)$
18. $(x + 6)(x + 7)$
19. $(x + 2)(x + 1)$
20. $(x - 4)(x + 4)$

Multiplying Factors (A) Answers

Find the product of each pair of factors.

1. $(x + 8)(x - 2)$
   $x^2 + 6x - 16$

2. $(x + 4)(x - 9)$
   $x^2 - 5x - 36$

3. $(x - 7)(x + 4)$
   $x^2 - 3x - 28$

4. $(x - 9)(x + 4)$
   $x^2 - 5x - 36$

5. $(x + 9)(x + 3)$
   $x^2 + 12x + 27$

6. $(x - 5)(x - 1)$
   $x^2 - 6x + 5$

7. $(x - 3)(x - 3)$
   $x^2 - 6x + 9$

8. $(x - 9)(x + 2)$
   $x^2 - 7x - 18$

9. $(x - 1)(x + 6)$
   $x^2 + 5x - 6$

10. $(x + 7)(x - 4)$
    $x^2 + 3x - 28$

11. $(x + 9)(x - 8)$
    $x^2 + x - 72$

12. $(x + 6)(x - 3)$
    $x^2 + 3x - 18$

13. $(x + 5)(x - 9)$
    $x^2 - 4x - 45$

14. $(x + 1)(x - 5)$
    $x^2 - 4x - 5$

15. $(x + 7)(x + 4)$
    $x^2 + 11x + 28$

16. $(x - 2)(x - 2)$
    $x^2 - 4x + 4$

17. $(x - 9)(x + 2)$
    $x^2 - 7x - 18$

18. $(x + 6)(x + 7)$
    $x^2 + 13x + 42$

19. $(x + 2)(x + 1)$
    $x^2 + 3x + 2$

20. $(x - 4)(x + 4)$
    $x^2 - 16$

Multiplying Factors (B)

Find the product of each pair of factors.

1. $(x - 2)(x + 1)$
2. $(x - 4)(x + 1)$
3. $(x - 5)(x + 9)$
4. $(x - 1)(x - 9)$
5. $(x - 8)(x + 2)$
6. $(x - 6)(x + 6)$
7. $(x + 9)(x + 1)$
8. $(x + 6)(x + 3)$
9. $(x + 9)(x + 9)$
10. $(x - 7)(x - 4)$
11. $(x + 7)(x + 5)$
12. $(x + 9)(x + 5)$
13. $(x - 6)(x + 9)$
14. $(x + 9)(x + 8)$
15. $(x - 9)(x - 5)$
16. $(x - 4)(x + 8)$
17. $(x + 2)(x - 9)$
18. $(x - 8)(x - 8)$
19. $(x + 8)(x + 4)$
20. $(x + 5)(x + 4)$

Multiplying Factors (B) Answers

Find the product of each pair of factors.

1. $(x - 2)(x + 1)$
   $x^2 - x - 2$

2. $(x - 4)(x + 1)$
   $x^2 - 3x - 4$

3. $(x - 5)(x + 9)$
   $x^2 + 4x - 45$

4. $(x - 1)(x - 9)$
   $x^2 - 10x + 9$

5. $(x - 8)(x + 2)$
   $x^2 - 6x - 16$

6. $(x - 6)(x + 6)$
   $x^2 - 36$

7. $(x + 9)(x + 1)$
   $x^2 + 10x + 9$

8. $(x + 6)(x + 3)$
   $x^2 + 9x + 18$

9. $(x + 9)(x + 9)$
   $x^2 + 18x + 81$

10. $(x - 7)(x - 4)$
    $x^2 - 11x + 28$

11. $(x + 7)(x + 5)$
    $x^2 + 12x + 35$

12. $(x + 9)(x + 5)$
    $x^2 + 14x + 45$

13. $(x - 6)(x + 9)$
    $x^2 + 3x - 54$

14. $(x + 9)(x + 8)$
    $x^2 + 17x + 72$

15. $(x - 9)(x - 5)$
    $x^2 - 14x + 45$

16. $(x - 4)(x + 8)$
    $x^2 + 4x - 32$

17. $(x + 2)(x - 9)$
    $x^2 - 7x - 18$

18. $(x - 8)(x - 8)$
    $x^2 - 16x + 64$

19. $(x + 8)(x + 4)$
    $x^2 + 12x + 32$

20. $(x + 5)(x + 4)$
    $x^2 + 9x + 20$

Multiplying Factors (C)

Find the product of each pair of factors.

1. $(x + 8)(x + 7)$
2. $(x + 7)(x - 4)$
3. $(x + 4)(x + 1)$
4. $(x + 6)(x + 1)$
5. $(x + 2)(x + 4)$
6. $(x + 3)(x + 3)$
7. $(x + 3)(x - 7)$
8. $(x + 9)(x - 4)$
9. $(x + 3)(x - 6)$
10. $(x - 5)(x - 4)$
11. $(x - 3)(x + 4)$
12. $(x + 7)(x + 2)$
13. $(x - 2)(x + 1)$
14. $(x + 2)(x - 8)$
15. $(x - 3)(x + 3)$
16. $(x - 2)(x + 8)$
17. $(x + 6)(x - 1)$
18. $(x - 8)(x + 2)$
19. $(x + 7)(x - 4)$
20. $(x + 4)(x - 5)$

Multiplying Factors (C) Answers

Find the product of each pair of factors.

1. $(x + 8)(x + 7)$
   $x^2 + 15x + 56$

2. $(x + 7)(x - 4)$
   $x^2 + 3x - 28$

3. $(x + 4)(x + 1)$
   $x^2 + 5x + 4$

4. $(x + 6)(x + 1)$
   $x^2 + 7x + 6$

5. $(x + 2)(x + 4)$
   $x^2 + 6x + 8$

6. $(x + 3)(x + 3)$
   $x^2 + 6x + 9$

7. $(x + 3)(x - 7)$
   $x^2 - 4x - 21$

8. $(x + 9)(x - 4)$
   $x^2 + 5x - 36$

9. $(x + 3)(x - 6)$
   $x^2 - 3x - 18$

10. $(x - 5)(x - 4)$
    $x^2 - 9x + 20$

11. $(x - 3)(x + 4)$
    $x^2 + x - 12$

12. $(x + 7)(x + 2)$
    $x^2 + 9x + 14$

13. $(x - 2)(x + 1)$
    $x^2 - x - 2$

14. $(x + 2)(x - 8)$
    $x^2 - 6x - 16$

15. $(x - 3)(x + 3)$
    $x^2 - 9$

16. $(x - 2)(x + 8)$
    $x^2 + 6x - 16$

17. $(x + 6)(x - 1)$
    $x^2 + 5x - 6$

18. $(x - 8)(x + 2)$
    $x^2 - 6x - 16$

19. $(x + 7)(x - 4)$
    $x^2 + 3x - 28$

20. $(x + 4)(x - 5)$
    $x^2 - x - 20$

Multiplying Factors (D)

Find the product of each pair of factors.

1. $(x - 7)(x + 7)$
2. $(x + 7)(x + 1)$
3. $(x + 3)(x + 2)$
4. $(x + 2)(x - 4)$
5. $(x + 3)(x + 7)$
6. $(x - 8)(x + 7)$
7. $(x - 4)(x + 9)$
8. $(x + 7)(x - 5)$
9. $(x + 7)(x + 8)$
10. $(x - 8)(x - 9)$
11. $(x - 4)(x - 1)$
12. $(x + 8)(x - 7)$
13. $(x + 6)(x + 6)$
14. $(x + 1)(x - 2)$
15. $(x + 1)(x + 7)$
16. $(x - 3)(x + 2)$
17. $(x + 5)(x + 3)$
18. $(x - 6)(x - 2)$
19. $(x - 7)(x + 4)$
20. $(x - 8)(x - 3)$

Multiplying Factors (D) Answers

Find the product of each pair of factors.

1. $(x - 7)(x + 7)$
   $x^2 - 49$

2. $(x + 7)(x + 1)$
   $x^2 + 8x + 7$

3. $(x + 3)(x + 2)$
   $x^2 + 5x + 6$

4. $(x + 2)(x - 4)$
   $x^2 - 2x - 8$

5. $(x + 3)(x + 7)$
   $x^2 + 10x + 21$

6. $(x - 8)(x + 7)$
   $x^2 - x - 56$

7. $(x - 4)(x + 9)$
   $x^2 + 5x - 36$

8. $(x + 7)(x - 5)$
   $x^2 + 2x - 35$

9. $(x + 7)(x + 8)$
   $x^2 + 15x + 56$

10. $(x - 8)(x - 9)$
    $x^2 - 17x + 72$

11. $(x - 4)(x - 1)$
    $x^2 - 5x + 4$

12. $(x + 8)(x - 7)$
    $x^2 + x - 56$

13. $(x + 6)(x + 6)$
    $x^2 + 12x + 36$

14. $(x + 1)(x - 2)$
    $x^2 - x - 2$

15. $(x + 1)(x + 7)$
    $x^2 + 8x + 7$

16. $(x - 3)(x + 2)$
    $x^2 - x - 6$

17. $(x + 5)(x + 3)$
    $x^2 + 8x + 15$

18. $(x - 6)(x - 2)$
    $x^2 - 8x + 12$

19. $(x - 7)(x + 4)$
    $x^2 - 3x - 28$

20. $(x - 8)(x - 3)$
    $x^2 - 11x + 24$

Multiplying Factors (E)

Find the product of each pair of factors.

1. $(x - 4)(x - 6)$
2. $(x - 8)(x + 6)$
3. $(x + 5)(x + 5)$
4. $(x - 2)(x + 9)$
5. $(x + 6)(x + 1)$
6. $(x - 7)(x - 4)$
7. $(x + 8)(x + 6)$
8. $(x - 7)(x + 1)$
9. $(x + 8)(x + 5)$
10. $(x + 6)(x + 6)$
11. $(x - 7)(x + 6)$
12. $(x + 3)(x + 8)$
13. $(x - 1)(x + 8)$
14. $(x - 6)(x - 4)$
15. $(x - 1)(x + 6)$
16. $(x + 8)(x + 3)$
17. $(x + 9)(x + 6)$
18. $(x - 1)(x + 6)$
19. $(x - 4)(x - 3)$
20. $(x - 3)(x + 6)$

Multiplying Factors (E) Answers

Find the product of each pair of factors.

1. $(x - 4)(x - 6)$
   $x^2 - 10x + 24$

2. $(x - 8)(x + 6)$
   $x^2 - 2x - 48$

3. $(x + 5)(x + 5)$
   $x^2 + 10x + 25$

4. $(x - 2)(x + 9)$
   $x^2 + 7x - 18$

5. $(x + 6)(x + 1)$
   $x^2 + 7x + 6$

6. $(x - 7)(x - 4)$
   $x^2 - 11x + 28$

7. $(x + 8)(x + 6)$
   $x^2 + 14x + 48$

8. $(x - 7)(x + 1)$
   $x^2 - 6x - 7$

9. $(x + 8)(x + 5)$
   $x^2 + 13x + 40$

10. $(x + 6)(x + 6)$
    $x^2 + 12x + 36$

11. $(x - 7)(x + 6)$
    $x^2 - x - 42$

12. $(x + 3)(x + 8)$
    $x^2 + 11x + 24$

13. $(x - 1)(x + 8)$
    $x^2 + 7x - 8$

14. $(x - 6)(x - 4)$
    $x^2 - 10x + 24$

15. $(x - 1)(x + 6)$
    $x^2 + 5x - 6$

16. $(x + 8)(x + 3)$
    $x^2 + 11x + 24$

17. $(x + 9)(x + 6)$
    $x^2 + 15x + 54$

18. $(x - 1)(x + 6)$
    $x^2 + 5x - 6$

19. $(x - 4)(x - 3)$
    $x^2 - 7x + 12$

20. $(x - 3)(x + 6)$
    $x^2 + 3x - 18$

Factoring Quadratics (A)

Factor each expression

1. $x^2 - 4x - 32$
2. $x^2 + 8x + 12$
3. $x^2 - 11x + 24$
4. $x^2 + x - 2$
5. $x^2 - 11x + 24$
6. $x^2 + 12x + 35$
7. $x^2 - 3x - 40$
8. $x^2 + 3x - 4$
9. $x^2 + 4x - 12$
10. $x^2 - 14x + 45$
11. $x^2 + 5x - 6$
12. $x^2 - 4$
13. $x^2 - 6x - 7$
14. $x^2 + 6x - 16$
15. $x^2 + 11x + 28$
16. $x^2 + 10x + 16$
17. $x^2 + 11x + 24$
18. $x^2 + 12x + 27$
19. $x^2 - 13x + 36$
20. $x^2 + 5x - 24$

Factoring Quadratics (A) Answers

Factor each expression

1. $x^2 - 4x - 32$
   $(x + 4)(x - 8)$

2. $x^2 + 8x + 12$
   $(x + 2)(x + 6)$

3. $x^2 - 11x + 24$
   $(x - 8)(x - 3)$

4. $x^2 + x - 2$
   $(x + 2)(x - 1)$

5. $x^2 - 11x + 24$
   $(x - 8)(x - 3)$

6. $x^2 + 12x + 35$
   $(x + 7)(x + 5)$

7. $x^2 - 3x - 40$
   $(x + 5)(x - 8)$

8. $x^2 + 3x - 4$
   $(x - 1)(x + 4)$

9. $x^2 + 4x - 12$
   $(x + 6)(x - 2)$

10. $x^2 - 14x + 45$
    $(x - 5)(x - 9)$

11. $x^2 + 5x - 6$
    $(x + 6)(x - 1)$

12. $x^2 - 4$
    $(x - 2)(x + 2)$

13. $x^2 - 6x - 7$
    $(x - 7)(x + 1)$

14. $x^2 + 6x - 16$
    $(x - 2)(x + 8)$

15. $x^2 + 11x + 28$
    $(x + 7)(x + 4)$

16. $x^2 + 10x + 16$
    $(x + 8)(x + 2)$

17. $x^2 + 11x + 24$
    $(x + 3)(x + 8)$

18. $x^2 + 12x + 27$
    $(x + 9)(x + 3)$

19. $x^2 - 13x + 36$
    $(x - 9)(x - 4)$

20. $x^2 + 5x - 24$
    $(x + 8)(x - 3)$

Factoring Quadratics (B)

Factor each expression

1. $x^2 - 64$
2. $x^2 + x - 30$
3. $x^2 - 2x - 63$
4. $x^2 - x - 20$
5. $x^2 + 7x - 18$
6. $x^2 - 7x + 12$
7. $x^2 - 16$
8. $x^2 - 14x + 48$
9. $x^2 - 7x + 6$
10. $x^2 - 10x + 24$
11. $x^2 + 13x + 36$
12. $x^2 + 11x + 24$
13. $x^2 + 8x + 7$
14. $x^2 + 6x + 8$
15. $x^2 + 14x + 49$
16. $x^2 + x - 56$
17. $x^2 + 2x - 48$
18. $x^2 - 9x + 18$
19. $x^2 - 13x + 42$
20. $x^2 - 6x - 16$

Factoring Quadratics (B) Answers

Factor each expression

1. $x^2 - 64$
   $(x + 8)(x - 8)$

2. $x^2 + x - 30$
   $(x + 6)(x - 5)$

3. $x^2 - 2x - 63$
   $(x - 9)(x + 7)$

4. $x^2 - x - 20$
   $(x - 5)(x + 4)$

5. $x^2 + 7x - 18$
   $(x + 9)(x - 2)$

6. $x^2 - 7x + 12$
   $(x - 3)(x - 4)$

7. $x^2 - 16$
   $(x - 4)(x + 4)$

8. $x^2 - 14x + 48$
   $(x - 6)(x - 8)$

9. $x^2 - 7x + 6$
   $(x - 6)(x - 1)$

10. $x^2 - 10x + 24$
    $(x - 4)(x - 6)$

11. $x^2 + 13x + 36$
    $(x + 4)(x + 9)$

12. $x^2 + 11x + 24$
    $(x + 8)(x + 3)$

13. $x^2 + 8x + 7$
    $(x + 1)(x + 7)$

14. $x^2 + 6x + 8$
    $(x + 2)(x + 4)$

15. $x^2 + 14x + 49$
    $(x + 7)(x + 7)$

16. $x^2 + x - 56$
    $(x - 7)(x + 8)$

17. $x^2 + 2x - 48$
    $(x + 8)(x - 6)$

18. $x^2 - 9x + 18$
    $(x - 6)(x - 3)$

19. $x^2 - 13x + 42$
    $(x - 6)(x - 7)$

20. $x^2 - 6x - 16$
    $(x - 8)(x + 2)$

Factoring Quadratics (C)

Factor each expression

1. $x^2 + x - 12$
2. $x^2 - 2x + 1$
3. $x^2 - 4$
4. $x^2 - 4x + 3$
5. $x^2 - 4$
6. $x^2 - 4x - 5$
7. $x^2 - 3x + 2$
8. $x^2 - x - 20$
9. $x^2 + 6x - 16$
10. $x^2 - 2x - 24$
11. $x^2 + 8x + 7$
12. $x^2 + 5x - 14$
13. $x^2 + 2x - 3$
14. $x^2 + 8x - 9$
15. $x^2 - 2x - 24$
16. $x^2 + 4x - 45$
17. $x^2 - 9$
18. $x^2 + 3x - 40$
19. $x^2 + 5x + 4$
20. $x^2 - 10x + 25$

Factoring Quadratics (C) Answers

Factor each expression

1. $x^2 + x - 12$
   $(x - 3)(x + 4)$

2. $x^2 - 2x + 1$
   $(x - 1)(x - 1)$

3. $x^2 - 4$
   $(x - 2)(x + 2)$

4. $x^2 - 4x + 3$
   $(x - 1)(x - 3)$

5. $x^2 - 4$
   $(x + 2)(x - 2)$

6. $x^2 - 4x - 5$
   $(x + 1)(x - 5)$

7. $x^2 - 3x + 2$
   $(x - 2)(x - 1)$

8. $x^2 - x - 20$
   $(x + 4)(x - 5)$

9. $x^2 + 6x - 16$
   $(x - 2)(x + 8)$

10. $x^2 - 2x - 24$
    $(x - 6)(x + 4)$

11. $x^2 + 8x + 7$
    $(x + 1)(x + 7)$

12. $x^2 + 5x - 14$
    $(x + 7)(x - 2)$

13. $x^2 + 2x - 3$
    $(x + 3)(x - 1)$

14. $x^2 + 8x - 9$
    $(x - 1)(x + 9)$

15. $x^2 - 2x - 24$
    $(x - 6)(x + 4)$

16. $x^2 + 4x - 45$
    $(x - 5)(x + 9)$

17. $x^2 - 9$
    $(x - 3)(x + 3)$

18. $x^2 + 3x - 40$
    $(x + 8)(x - 5)$

19. $x^2 + 5x + 4$
    $(x + 4)(x + 1)$

20. $x^2 - 10x + 25$
    $(x - 5)(x - 5)$

Factoring Quadratics (D)

Factor each expression

1. $x^2 - 4x - 45$
2. $x^2 + 4x - 45$
3. $x^2 + 12x + 27$
4. $x^2 + 12x + 32$
5. $x^2 + 2x - 3$
6. $x^2 + 10x + 24$
7. $x^2 - 8x + 15$
8. $x^2 + 9x + 18$
9. $x^2 - 2x - 35$
10. $x^2 - 2x - 24$
11. $x^2 + 5x + 6$
12. $x^2 + 5x - 36$
13. $x^2 + 2x - 15$
14. $x^2 + x - 56$
15. $x^2 + 15x + 56$
16. $x^2 - 12x + 36$
17. $x^2 + 3x - 18$
18. $x^2 + 3x - 18$
19. $x^2 - x - 56$
20. $x^2 + x - 72$

Factoring Quadratics (D) Answers

Factor each expression

1. $x^2 - 4x - 45$
   $(x - 9)(x + 5)$

2. $x^2 + 4x - 45$
   $(x - 5)(x + 9)$

3. $x^2 + 12x + 27$
   $(x + 9)(x + 3)$

4. $x^2 + 12x + 32$
   $(x + 4)(x + 8)$

5. $x^2 + 2x - 3$
   $(x - 1)(x + 3)$

6. $x^2 + 10x + 24$
   $(x + 4)(x + 6)$

7. $x^2 - 8x + 15$
   $(x - 3)(x - 5)$

8. $x^2 + 9x + 18$
   $(x + 3)(x + 6)$

9. $x^2 - 2x - 35$
   $(x - 7)(x + 5)$

10. $x^2 - 2x - 24$
    $(x + 4)(x - 6)$

11. $x^2 + 5x + 6$
    $(x + 2)(x + 3)$

12. $x^2 + 5x - 36$
    $(x - 4)(x + 9)$

13. $x^2 + 2x - 15$
    $(x - 3)(x + 5)$

14. $x^2 + x - 56$
    $(x - 7)(x + 8)$

15. $x^2 + 15x + 56$
    $(x + 7)(x + 8)$

16. $x^2 - 12x + 36$
    $(x - 6)(x - 6)$

17. $x^2 + 3x - 18$
    $(x + 6)(x - 3)$

18. $x^2 + 3x - 18$
    $(x + 6)(x - 3)$

19. $x^2 - x - 56$
    $(x + 7)(x - 8)$

20. $x^2 + x - 72$
    $(x - 8)(x + 9)$

Factoring Quadratics (E)

Factor each expression

1. $x^2 + 3x - 10$
2. $x^2 + 8x + 16$
3. $x^2 + 15x + 56$
4. $x^2 - 17x + 72$
5. $x^2 - 6x - 16$
6. $x^2 - 13x + 42$
7. $x^2 + x - 2$
8. $x^2 + 7x + 6$
9. $x^2 - 3x - 18$
10. $x^2 - 5x - 36$
11. $x^2 + x - 20$
12. $x^2 - 14x + 45$
13. $x^2 + x - 30$
14. $x^2 - 8x + 7$
15. $x^2 - 4x - 32$
16. $x^2 - 2x - 3$
17. $x^2 + 3x - 54$
18. $x^2 - x - 72$
19. $x^2 - 10x + 9$
20. $x^2 - 49$

Factoring Quadratics (E) Answers

Factor each expression

1. $x^2 + 3x - 10$
   $(x + 5)(x - 2)$

2. $x^2 + 8x + 16$
   $(x + 4)(x + 4)$

3. $x^2 + 15x + 56$
   $(x + 8)(x + 7)$

4. $x^2 - 17x + 72$
   $(x - 8)(x - 9)$

5. $x^2 - 6x - 16$
   $(x + 2)(x - 8)$

6. $x^2 - 13x + 42$
   $(x - 7)(x - 6)$

7. $x^2 + x - 2$
   $(x - 1)(x + 2)$

8. $x^2 + 7x + 6$
   $(x + 6)(x + 1)$

9. $x^2 - 3x - 18$
   $(x - 6)(x + 3)$

10. $x^2 - 5x - 36$
    $(x + 4)(x - 9)$

11. $x^2 + x - 20$
    $(x + 5)(x - 4)$

12. $x^2 - 14x + 45$
    $(x - 9)(x - 5)$

13. $x^2 + x - 30$
    $(x + 6)(x - 5)$

14. $x^2 - 8x + 7$
    $(x - 1)(x - 7)$

15. $x^2 - 4x - 32$
    $(x + 4)(x - 8)$

16. $x^2 - 2x - 3$
    $(x - 3)(x + 1)$

17. $x^2 + 3x - 54$
    $(x + 9)(x - 6)$

18. $x^2 - x - 72$
    $(x - 9)(x + 8)$

19. $x^2 - 10x + 9$
    $(x - 1)(x - 9)$

20. $x^2 - 49$
    $(x + 7)(x - 7)$

Factoring Quadratics (A)

Factor each expression

1. $15x^2 + 52x + 45$
2. $8x^2 + 26x + 20$
3. $48x^2 + 14x + 1$
4. $21x^2 - x - 2$
5. $8x^2 - 25x + 18$
6. $15x^2 - 25x - 40$
7. $45x^2 + 46x - 63$
8. $81x^2 + 99x + 28$
9. $6x^2 - 21x + 9$
10. $20x^2 - 71x + 63$
11. $6x^2 - 34x + 20$
12. $16x^2 - 20x - 6$
13. $7x^2 - 23x + 6$
14. $7x^2 - 50x + 48$
15. $21x^2 + 50x - 16$
16. $12x^2 + 28x + 8$
17. $6x^2 - 13x - 15$
18. $28x^2 - 46x + 16$
19. $16x^2 + 44x + 10$
20. $21x^2 + 25x - 4$

Factoring Quadratics (A) Answers

Factor each expression

1. $15x^2 + 52x + 45$
   $(3x + 5)(5x + 9)$

2. $8x^2 + 26x + 20$
   $(2x + 4)(4x + 5)$

3. $48x^2 + 14x + 1$
   $(8x + 1)(6x + 1)$

4. $21x^2 - x - 2$
   $(7x + 2)(3x - 1)$

5. $8x^2 - 25x + 18$
   $(x - 2)(8x - 9)$

6. $15x^2 - 25x - 40$
   $(5x + 5)(3x - 8)$

7. $45x^2 + 46x - 63$
   $(9x - 7)(5x + 9)$

8. $81x^2 + 99x + 28$
   $(9x + 4)(9x + 7)$

9. $6x^2 - 21x + 9$
   $(x - 3)(6x - 3)$

10. $20x^2 - 71x + 63$
    $(5x - 9)(4x - 7)$

11. $6x^2 - 34x + 20$
    $(x - 5)(6x - 4)$

12. $16x^2 - 20x - 6$
    $(4x + 1)(4x - 6)$

13. $7x^2 - 23x + 6$
    $(7x - 2)(x - 3)$

14. $7x^2 - 50x + 48$
    $(x - 6)(7x - 8)$

15. $21x^2 + 50x - 16$
    $(7x - 2)(3x + 8)$

16. $12x^2 + 28x + 8$
    $(6x + 2)(2x + 4)$

17. $6x^2 - 13x - 15$
    $(6x + 5)(x - 3)$

18. $28x^2 - 46x + 16$
    $(7x - 8)(4x - 2)$

19. $16x^2 + 44x + 10$
    $(8x + 2)(2x + 5)$

20. $21x^2 + 25x - 4$
    $(3x + 4)(7x - 1)$

Factoring Quadratics (B)

Factor each expression

1. $25x^2 - 10x - 3$
2. $56x^2 - 16x - 40$
3. $72x^2 + 14x - 30$
4. $48x^2 - 108x + 54$
5. $3x^2 + 19x - 40$
6. $3x^2 + 3x - 18$
7. $21x^2 - 27x + 6$
8. $32x^2 - 52x + 18$
9. $36x^2 + 8x - 28$
10. $9x^2 + 80x + 64$
11. $6x^2 - 12x + 6$
12. $5x^2 - 41x + 8$
13. $14x^2 + 20x - 16$
14. $24x^2 - 37x - 72$
15. $24x^2 - 53x - 7$
16. $12x^2 + 56x + 9$
17. $36x^2 - 18x + 2$
18. $72x^2 - 5x - 25$
19. $6x^2 - 28x + 16$
20. $48x^2 - 118x + 72$

Factoring Quadratics (B) Answers

Factor each expression

1. $25x^2 - 10x - 3$
   $(5x + 1)(5x - 3)$

2. $56x^2 - 16x - 40$
   $(8x - 8)(7x + 5)$

3. $72x^2 + 14x - 30$
   $(8x + 6)(9x - 5)$

4. $48x^2 - 108x + 54$
   $(6x - 9)(8x - 6)$

5. $3x^2 + 19x - 40$
   $(x + 8)(3x - 5)$

6. $3x^2 + 3x - 18$
   $(x + 3)(3x - 6)$

7. $21x^2 - 27x + 6$
   $(7x - 2)(3x - 3)$

8. $32x^2 - 52x + 18$
   $(4x - 2)(8x - 9)$

9. $36x^2 + 8x - 28$
   $(4x + 4)(9x - 7)$

10. $9x^2 + 80x + 64$
    $(9x + 8)(x + 8)$

11. $6x^2 - 12x + 6$
    $(x - 1)(6x - 6)$

12. $5x^2 - 41x + 8$
    $(5x - 1)(x - 8)$

13. $14x^2 + 20x - 16$
    $(7x - 4)(2x + 4)$

14. $24x^2 - 37x - 72$
    $(8x + 9)(3x - 8)$

15. $24x^2 - 53x - 7$
    $(8x + 1)(3x - 7)$

16. $12x^2 + 56x + 9$
    $(6x + 1)(2x + 9)$

17. $36x^2 - 18x + 2$
    $(6x - 2)(6x - 1)$

18. $72x^2 - 5x - 25$
    $(8x - 5)(9x + 5)$

19. $6x^2 - 28x + 16$
    $(2x - 8)(3x - 2)$

20. $48x^2 - 118x + 72$
    $(6x - 8)(8x - 9)$

Factoring Quadratics (C)

Factor each expression

1. $7x^2 + 38x - 24$
2. $24x^2 + 38x + 8$
3. $28x^2 - 43x - 45$
4. $7x^2 + 24x - 16$
5. $42x^2 + 45x + 12$
6. $12x^2 + 15x - 63$
7. $24x^2 - 2x - 15$
8. $x^2 + 7x + 12$
9. $72x^2 - 2x - 4$
10. $16x^2 - 64$
11. $10x^2 + 37x - 36$
12. $32x^2 + 88x + 56$
13. $27x^2 + 18x - 9$
14. $45x^2 + 56x - 45$
15. $14x^2 + 77x + 63$
16. $9x^2 - 65x + 14$
17. $14x^2 + 21x - 35$
18. $8x^2 - 22x - 6$
19. $45x^2 + 48x - 21$
20. $56x^2 - 103x + 45$

Factoring Quadratics (C) Answers

Factor each expression

1. $7x^2 + 38x - 24$
   $(x + 6)(7x - 4)$

2. $24x^2 + 38x + 8$
   $(8x + 2)(3x + 4)$

3. $28x^2 - 43x - 45$
   $(4x - 9)(7x + 5)$

4. $7x^2 + 24x - 16$
   $(7x - 4)(x + 4)$

5. $42x^2 + 45x + 12$
   $(7x + 4)(6x + 3)$

6. $12x^2 + 15x - 63$
   $(3x + 9)(4x - 7)$

7. $24x^2 - 2x - 15$
   $(4x + 3)(6x - 5)$

8. $x^2 + 7x + 12$
   $(x + 4)(x + 3)$

9. $72x^2 - 2x - 4$
   $(9x + 2)(8x - 2)$

10. $16x^2 - 64$
    $(4x - 8)(4x + 8)$

11. $10x^2 + 37x - 36$
    $(2x + 9)(5x - 4)$

12. $32x^2 + 88x + 56$
    $(8x + 8)(4x + 7)$

13. $27x^2 + 18x - 9$
    $(3x - 1)(9x + 9)$

14. $45x^2 + 56x - 45$
    $(5x + 9)(9x - 5)$

15. $14x^2 + 77x + 63$
    $(2x + 9)(7x + 7)$

16. $9x^2 - 65x + 14$
    $(9x - 2)(x - 7)$

17. $14x^2 + 21x - 35$
    $(7x - 7)(2x + 5)$

18. $8x^2 - 22x - 6$
    $(8x + 2)(x - 3)$

19. $45x^2 + 48x - 21$
    $(5x + 7)(9x - 3)$

20. $56x^2 - 103x + 45$
    $(8x - 9)(7x - 5)$

Factoring Quadratics (D)

Factor each expression

1. $16x^2 - 16x + 3$
2. $12x^2 - x - 20$
3. $42x^2 - 75x + 27$
4. $72x^2 + 2x - 4$
5. $8x^2 - 22x - 63$
6. $15x^2 + 20x + 5$
7. $24x^2 + 72x + 54$
8. $x^2 - 11x + 30$
9. $6x^2 + 40x - 14$
10. $56x^2 - 24x - 32$
11. $32x^2 - 52x + 6$
12. $16x^2 - 32x + 15$
13. $35x^2 + 33x + 4$
14. $15x^2 - 26x + 8$
15. $18x^2 + 39x - 24$
16. $8x^2 - 32$
17. $2x^2 + 5x - 7$
18. $45x^2 - 45$
19. $14x^2 + 27x + 9$
20. $4x^2 - 20x - 24$

Factoring Quadratics (D) Answers

Factor each expression

1. $16x^2 - 16x + 3$
   $(4x - 1)(4x - 3)$

2. $12x^2 - x - 20$
   $(4x + 5)(3x - 4)$

3. $42x^2 - 75x + 27$
   $(7x - 9)(6x - 3)$

4. $72x^2 + 2x - 4$
   $(8x + 2)(9x - 2)$

5. $8x^2 - 22x - 63$
   $(2x - 9)(4x + 7)$

6. $15x^2 + 20x + 5$
   $(3x + 1)(5x + 5)$

7. $24x^2 + 72x + 54$
   $(4x + 6)(6x + 9)$

8. $x^2 - 11x + 30$
   $(x - 6)(x - 5)$

9. $6x^2 + 40x - 14$
   $(6x - 2)(x + 7)$

10. $56x^2 - 24x - 32$
    $(7x + 4)(8x - 8)$

11. $32x^2 - 52x + 6$
    $(8x - 1)(4x - 6)$

12. $16x^2 - 32x + 15$
    $(4x - 3)(4x - 5)$

13. $35x^2 + 33x + 4$
    $(7x + 1)(5x + 4)$

14. $15x^2 - 26x + 8$
    $(3x - 4)(5x - 2)$

15. $18x^2 + 39x - 24$
    $(3x + 8)(6x - 3)$

16. $8x^2 - 32$
    $(4x + 8)(2x - 4)$

17. $2x^2 + 5x - 7$
    $(2x + 7)(x - 1)$

18. $45x^2 - 45$
    $(5x + 5)(9x - 9)$

19. $14x^2 + 27x + 9$
    $(2x + 3)(7x + 3)$

20. $4x^2 - 20x - 24$
    $(x - 6)(4x + 4)$

Factoring Quadratics (E)

Factor each expression

1. $81x^2 + 144x + 63$
2. $42x^2 + 41x - 8$
3. $36x^2 + 56x - 32$
4. $81x^2 - 9$
5. $40x^2 + 28x + 4$
6. $56x^2 - 93x + 27$
7. $10x^2 - 2x - 36$
8. $54x^2 - 69x - 18$
9. $35x^2 - 18x - 5$
10. $27x^2 - 30x + 7$
11. $3x^2 - 12x - 15$
12. $48x^2 - 34x + 6$
13. $2x^2 - 5x - 7$
14. $48x^2 - 10x - 28$
15. $72x^2 + 97x + 18$
16. $27x^2 + 9x - 6$
17. $49x^2 + 112x + 63$
18. $4x^2 + 38x + 18$
19. $27x^2 - 18x - 24$
20. $3x^2 + x - 24$

Factoring Quadratics (E) Answers

Factor each expression

1. $81x^2 + 144x + 63$
   $(9x + 9)(9x + 7)$

2. $42x^2 + 41x - 8$
   $(7x + 8)(6x - 1)$

3. $36x^2 + 56x - 32$
   $(4x + 8)(9x - 4)$

4. $81x^2 - 9$
   $(9x + 3)(9x - 3)$

5. $40x^2 + 28x + 4$
   $(8x + 4)(5x + 1)$

6. $56x^2 - 93x + 27$
   $(7x - 9)(8x - 3)$

7. $10x^2 - 2x - 36$
   $(5x + 9)(2x - 4)$

8. $54x^2 - 69x - 18$
   $(6x - 9)(9x + 2)$

9. $35x^2 - 18x - 5$
   $(5x + 1)(7x - 5)$

10. $27x^2 - 30x + 7$
    $(3x - 1)(9x - 7)$

11. $3x^2 - 12x - 15$
    $(3x + 3)(x - 5)$

12. $48x^2 - 34x + 6$
    $(6x - 2)(8x - 3)$

13. $2x^2 - 5x - 7$
    $(2x - 7)(x + 1)$

14. $48x^2 - 10x - 28$
    $(6x + 4)(8x - 7)$

15. $72x^2 + 97x + 18$
    $(8x + 9)(9x + 2)$

16. $27x^2 + 9x - 6$
    $(3x - 1)(9x + 6)$

17. $49x^2 + 112x + 63$
    $(7x + 9)(7x + 7)$

18. $4x^2 + 38x + 18$
    $(x + 9)(4x + 2)$

19. $27x^2 - 18x - 24$
    $(9x + 6)(3x - 4)$

20. $3x^2 + x - 24$
    $(3x - 8)(x + 3)$

Solving Quadratic Equations (A)

Solve each equation for x

1. $x^2 - 5x - 6 = 0$

2. $x^2 + 8x + 16 = 0$

3. $x^2 - 4x - 5 = 0$

4. $x^2 + 5x - 14 = 0$

5. $x^2 + x - 56 = 0$

6. $x^2 + 11x + 30 = 0$

7. $x^2 - 8x - 9 = 0$

8. $x^2 - 7x - 18 = 0$

9. $x^2 + 9x + 8 = 0$

10. $x^2 - 9x + 8 = 0$

11. $x^2 - 8x - 9 = 0$

12. $x^2 + 11x + 28 = 0$

Solving Quadratic Equations (A) Answers

Solve each equation for x

1. $x^2 - 5x - 6 = 0$
   $(x - 6)(x + 1) = 0$
   $x = 6 \ , \ -1$

2. $x^2 + 8x + 16 = 0$
   $(x + 4)(x + 4) = 0$
   $x = -4$

3. $x^2 - 4x - 5 = 0$
   $(x - 5)(x + 1) = 0$
   $x = 5 \ , \ -1$

4. $x^2 + 5x - 14 = 0$
   $(x - 2)(x + 7) = 0$
   $x = 2 \ , \ -7$

5. $x^2 + x - 56 = 0$
   $(x + 8)(x - 7) = 0$
   $x = -8 \ , \ 7$

6. $x^2 + 11x + 30 = 0$
   $(x + 5)(x + 6) = 0$
   $x = -5 \ , \ -6$

7. $x^2 - 8x - 9 = 0$
   $(x + 1)(x - 9) = 0$
   $x = -1 \ , \ 9$

8. $x^2 - 7x - 18 = 0$
   $(x - 9)(x + 2) = 0$
   $x = 9 \ , \ -2$

9. $x^2 + 9x + 8 = 0$
   $(x + 8)(x + 1) = 0$
   $x = -8 \ , \ -1$

10. $x^2 - 9x + 8 = 0$
    $(x - 8)(x - 1) = 0$
    $x = 8 \ , \ 1$

11. $x^2 - 8x - 9 = 0$
    $(x + 1)(x - 9) = 0$
    $x = -1 \ , \ 9$

12. $x^2 + 11x + 28 = 0$
    $(x + 7)(x + 4) = 0$
    $x = -7 \ , \ -4$

Solving Quadratic Equations (B)

Solve each equation for x

1. $x^2 + 8x + 15 = 0$

2. $x^2 + x - 72 = 0$

3. $x^2 - 2x - 24 = 0$

4. $x^2 - 4x - 21 = 0$

5. $x^2 + x - 2 = 0$

6. $x^2 - 3x - 40 = 0$

7. $x^2 + 16x + 63 = 0$

8. $x^2 + 8x + 16 = 0$

9. $x^2 - 49 = 0$

10. $x^2 + 13x + 42 = 0$

11. $x^2 + 2x - 24 = 0$

12. $x^2 - 36 = 0$

Solving Quadratic Equations (B) Answers

Solve each equation for x

1. $x^2 + 8x + 15 = 0$
   $(x + 3)(x + 5) = 0$
   $x = -3 \ , \ -5$

2. $x^2 + x - 72 = 0$
   $(x + 9)(x - 8) = 0$
   $x = -9 \ , \ 8$

3. $x^2 - 2x - 24 = 0$
   $(x + 4)(x - 6) = 0$
   $x = -4 \ , \ 6$

4. $x^2 - 4x - 21 = 0$
   $(x + 3)(x - 7) = 0$
   $x = -3 \ , \ 7$

5. $x^2 + x - 2 = 0$
   $(x + 2)(x - 1) = 0$
   $x = -2 \ , \ 1$

6. $x^2 - 3x - 40 = 0$
   $(x + 5)(x - 8) = 0$
   $x = -5 \ , \ 8$

7. $x^2 + 16x + 63 = 0$
   $(x + 7)(x + 9) = 0$
   $x = -7 \ , \ -9$

8. $x^2 + 8x + 16 = 0$
   $(x + 4)(x + 4) = 0$
   $x = -4$

9. $x^2 - 49 = 0$
   $(x + 7)(x - 7) = 0$
   $x = -7 \ , \ 7$

10. $x^2 + 13x + 42 = 0$
    $(x + 6)(x + 7) = 0$
    $x = -6 \ , \ -7$

11. $x^2 + 2x - 24 = 0$
    $(x + 6)(x - 4) = 0$
    $x = -6 \ , \ 4$

12. $x^2 - 36 = 0$
    $(x + 6)(x - 6) = 0$
    $x = -6 \ , \ 6$

Solving Quadratic Equations (C)

Solve each equation for x

1. $x^2 + 4x - 5 = 0$

2. $x^2 + 10x + 16 = 0$

3. $x^2 + 7x + 6 = 0$

4. $x^2 - 13x + 40 = 0$

5. $x^2 + 3x + 2 = 0$

6. $x^2 - 5x - 36 = 0$

7. $x^2 - 13x + 42 = 0$

8. $x^2 - 13x + 40 = 0$

9. $x^2 - 8x + 7 = 0$

10. $x^2 + x - 42 = 0$

11. $x^2 - 6x - 7 = 0$

12. $x^2 - 5x - 14 = 0$

Solving Quadratic Equations (C) Answers

Solve each equation for x

1. $x^2 + 4x - 5 = 0$
   $(x - 1)(x + 5) = 0$
   $x = 1 \ , \ -5$

2. $x^2 + 10x + 16 = 0$
   $(x + 8)(x + 2) = 0$
   $x = -8 \ , \ -2$

3. $x^2 + 7x + 6 = 0$
   $(x + 1)(x + 6) = 0$
   $x = -1 \ , \ -6$

4. $x^2 - 13x + 40 = 0$
   $(x - 5)(x - 8) = 0$
   $x = 5 \ , \ 8$

5. $x^2 + 3x + 2 = 0$
   $(x + 2)(x + 1) = 0$
   $x = -2 \ , \ -1$

6. $x^2 - 5x - 36 = 0$
   $(x + 4)(x - 9) = 0$
   $x = -4 \ , \ 9$

7. $x^2 - 13x + 42 = 0$
   $(x - 7)(x - 6) = 0$
   $x = 7 \ , \ 6$

8. $x^2 - 13x + 40 = 0$
   $(x - 5)(x - 8) = 0$
   $x = 5 \ , \ 8$

9. $x^2 - 8x + 7 = 0$
   $(x - 7)(x - 1) = 0$
   $x = 7 \ , \ 1$

10. $x^2 + x - 42 = 0$
    $(x - 6)(x + 7) = 0$
    $x = 6 \ , \ -7$

11. $x^2 - 6x - 7 = 0$
    $(x - 7)(x + 1) = 0$
    $x = 7 \ , \ -1$

12. $x^2 - 5x - 14 = 0$
    $(x + 2)(x - 7) = 0$
    $x = -2 \ , \ 7$

Solving Quadratic Equations (D)

Solve each equation for x

1. $x^2 + 2x - 8 = 0$

2. $x^2 + 14x + 45 = 0$

3. $x^2 + 15x + 56 = 0$

4. $x^2 + 8x + 7 = 0$

5. $x^2 - 10x + 24 = 0$

6. $x^2 - 64 = 0$

7. $x^2 + 14x + 49 = 0$

8. $x^2 - 16x + 63 = 0$

9. $x^2 + x - 30 = 0$

10. $x^2 - 10x + 25 = 0$

11. $x^2 - 6x + 9 = 0$

12. $x^2 + 3x - 54 = 0$

Solving Quadratic Equations (D) Answers

Solve each equation for x

1. $x^2 + 2x - 8 = 0$
   $(x - 2)(x + 4) = 0$
   $x = 2 \ , \ -4$

2. $x^2 + 14x + 45 = 0$
   $(x + 5)(x + 9) = 0$
   $x = -5 \ , \ -9$

3. $x^2 + 15x + 56 = 0$
   $(x + 8)(x + 7) = 0$
   $x = -8 \ , \ -7$

4. $x^2 + 8x + 7 = 0$
   $(x + 1)(x + 7) = 0$
   $x = -1 \ , \ -7$

5. $x^2 - 10x + 24 = 0$
   $(x - 4)(x - 6) = 0$
   $x = 4 \ , \ 6$

6. $x^2 - 64 = 0$
   $(x + 8)(x - 8) = 0$
   $x = -8 \ , \ 8$

7. $x^2 + 14x + 49 = 0$
   $(x + 7)(x + 7) = 0$
   $x = -7$

8. $x^2 - 16x + 63 = 0$
   $(x - 7)(x - 9) = 0$
   $x = 7 \ , \ 9$

9. $x^2 + x - 30 = 0$
   $(x + 6)(x - 5) = 0$
   $x = -6 \ , \ 5$

10. $x^2 - 10x + 25 = 0$
    $(x - 5)(x - 5) = 0$
    $x = 5$

11. $x^2 - 6x + 9 = 0$
    $(x - 3)(x - 3) = 0$
    $x = 3$

12. $x^2 + 3x - 54 = 0$
    $(x + 9)(x - 6) = 0$
    $x = -9 \ , \ 6$

Solving Quadratic Equations (E)

Solve each equation for x

1. $x^2 + 9x + 18 = 0$

2. $x^2 + 5x - 14 = 0$

3. $x^2 + 5x - 24 = 0$

4. $x^2 + 9x + 20 = 0$

5. $x^2 + 12x + 32 = 0$

6. $x^2 - 2x - 35 = 0$

7. $x^2 - 36 = 0$

8. $x^2 + 10x + 21 = 0$

9. $x^2 - 7x + 10 = 0$

10. $x^2 + 9x + 18 = 0$

11. $x^2 - 2x + 1 = 0$

12. $x^2 + 5x + 4 = 0$

Solving Quadratic Equations (E) Answers

Solve each equation for x

1. $x^2 + 9x + 18 = 0$
   $(x + 6)(x + 3) = 0$
   $x = -6 \ , \ -3$

2. $x^2 + 5x - 14 = 0$
   $(x + 7)(x - 2) = 0$
   $x = -7 \ , \ 2$

3. $x^2 + 5x - 24 = 0$
   $(x - 3)(x + 8) = 0$
   $x = 3 \ , \ -8$

4. $x^2 + 9x + 20 = 0$
   $(x + 4)(x + 5) = 0$
   $x = -4 \ , \ -5$

5. $x^2 + 12x + 32 = 0$
   $(x + 4)(x + 8) = 0$
   $x = -4 \ , \ -8$

6. $x^2 - 2x - 35 = 0$
   $(x + 5)(x - 7) = 0$
   $x = -5 \ , \ 7$

7. $x^2 - 36 = 0$
   $(x + 6)(x - 6) = 0$
   $x = -6 \ , \ 6$

8. $x^2 + 10x + 21 = 0$
   $(x + 3)(x + 7) = 0$
   $x = -3 \ , \ -7$

9. $x^2 - 7x + 10 = 0$
   $(x - 2)(x - 5) = 0$
   $x = 2 \ , \ 5$

10. $x^2 + 9x + 18 = 0$
    $(x + 3)(x + 6) = 0$
    $x = -3 \ , \ -6$

11. $x^2 - 2x + 1 = 0$
    $(x - 1)(x - 1) = 0$
    $x = 1$

12. $x^2 + 5x + 4 = 0$
    $(x + 1)(x + 4) = 0$
    $x = -1 \ , \ -4$

Solving Quadratic Equations (A)

Solve each equation for x

1. $12x^2 + 48x + 23 = -22$
2. $5x^2 + 21x + 15 = -3$
3. $12x^2 + 13x + 1 = -2$
4. $28x^2 - 66x + 27 = -9$
5. $16x^2 + 10x - 1 = 5$
6. $4x^2 - 17x + 2 = -2$
7. $24x^2 - 14x = -2$
8. $6x^2 - 23x + 1 = -19$
9. $15x^2 + 51x + 9 = -9$
10. $45x^2 - 69x + 6 = -12$
11. $64x^2 - 32x - 2 = 19$
12. $32x^2 + 52x + 5 = -10$

Solving Quadratic Equations (A) Answers

Solve each equation for x

1. $12x^2 + 48x + 23 = -22$
   $12x^2 + 48x + 45 = 0$
   $(2x + 5)\ (6x + 9) = 0$
   $x = -2\ 1/2,\ \ -1\ 1/2$

2. $5x^2 + 21x + 15 = -3$
   $5x^2 + 21x + 18 = 0$
   $(5x + 6)\ (x + 3) = 0$
   $x = -1\ 1/5,\ \ -3$

3. $12x^2 + 13x + 1 = -2$
   $12x^2 + 13x + 3 = 0$
   $(3x + 1)\ (4x + 3) = 0$
   $x = -\ 1/3,\ \ -\ 3/4$

4. $28x^2 - 66x + 27 = -9$
   $28x^2 - 66x + 36 = 0$
   $(7x - 6)\ (4x - 6) = 0$
   $x = \ 6/7,\ \ 1\ 1/2$

5. $16x^2 + 10x - 1 = 5$
   $16x^2 + 10x - 6 = 0$
   $(8x - 3)\ (2x + 2) = 0$
   $x = \ 3/8,\ \ -1$

6. $4x^2 - 17x + 2 = -2$
   $4x^2 - 17x + 4 = 0$
   $(x - 4)\ (4x - 1) = 0$
   $x = 4\ ,\ \ 1/4$

7. $24x^2 - 14x = -2$
   $24x^2 - 14x + 2 = 0$
   $(8x - 2)\ (3x - 1) = 0$
   $x = \ 1/4,\ \ 1/3$

8. $6x^2 - 23x + 1 = -19$
   $6x^2 - 23x + 20 = 0$
   $(2x - 5)\ (3x - 4) = 0$
   $x = 2\ 1/2,\ \ 1\ 1/3$

9. $15x^2 + 51x + 9 = -9$
   $15x^2 + 51x + 18 = 0$
   $(5x + 2)\ (3x + 9) = 0$
   $x = -\ 2/5,\ \ -3$

10. $45x^2 - 69x + 6 = -12$
    $45x^2 - 69x + 18 = 0$
    $(9x - 3)\ (5x - 6) = 0$
    $x = \ 1/3,\ \ 1\ 1/5$

11. $64x^2 - 32x - 2 = 19$
    $64x^2 - 32x - 21 = 0$
    $(8x + 3)\ (8x - 7) = 0$
    $x = -\ 3/8,\ \ 7/8$

12. $32x^2 + 52x + 5 = -10$
    $32x^2 + 52x + 15 = 0$
    $(4x + 5)\ (8x + 3) = 0$
    $x = -1\ 1/4,\ \ -\ 3/8$

Solving Quadratic Equations (B)

Solve each equation for x

1. $4x^2 + 32x - 35 = 1$

2. $10x^2 - 31x + 2 = -13$

3. $63x^2 + 83x + 2 = -22$

4. $32x^2 + 48x - 15 = 17$

5. $35x^2 - 46x - 7 = 9$

6. $6x^2 + 43x = -7$

7. $18x^2 + 36x - 1 = 53$

8. $9x^2 - 18x + 5 = -4$

9. $9x^2 - x - 3 = 5$

10. $6x^2 - 37x + 49 = -7$

11. $6x^2 - 8x - 7 = 1$

12. $6x^2 + 36x + 13 = -17$

Solving Quadratic Equations (B) Answers

Solve each equation for x

1. $4x^2 + 32x - 35 = 1$
   $4x^2 + 32x - 36 = 0$
   $(4x - 4)(x + 9) = 0$
   $x = 1\ ,\ -9$

2. $10x^2 - 31x + 2 = -13$
   $10x^2 - 31x + 15 = 0$
   $(5x - 3)(2x - 5) = 0$
   $x = 3/5,\ 2\ 1/2$

3. $63x^2 + 83x + 2 = -22$
   $63x^2 + 83x + 24 = 0$
   $(9x + 8)(7x + 3) = 0$
   $x = -8/9,\ -3/7$

4. $32x^2 + 48x - 15 = 17$
   $32x^2 + 48x - 32 = 0$
   $(4x + 8)(8x - 4) = 0$
   $x = -2\ ,\ 1/2$

5. $35x^2 - 46x - 7 = 9$
   $35x^2 - 46x - 16 = 0$
   $(5x - 8)(7x + 2) = 0$
   $x = 1\ 3/5,\ -2/7$

6. $6x^2 + 43x = -7$
   $6x^2 + 43x + 7 = 0$
   $(x + 7)(6x + 1) = 0$
   $x = -7\ ,\ -1/6$

7. $18x^2 + 36x - 1 = 53$
   $18x^2 + 36x - 54 = 0$
   $(9x - 9)(2x + 6) = 0$
   $x = 1\ ,\ -3$

8. $9x^2 - 18x + 5 = -4$
   $9x^2 - 18x + 9 = 0$
   $(9x - 9)(x - 1) = 0$
   $x = 1$

9. $9x^2 - x - 3 = 5$
   $9x^2 - x - 8 = 0$
   $(9x + 8)(x - 1) = 0$
   $x = -8/9,\ 1$

10. $6x^2 - 37x + 49 = -7$
    $6x^2 - 37x + 56 = 0$
    $(3x - 8)(2x - 7) = 0$
    $x = 2\ 2/3,\ 3\ 1/2$

11. $6x^2 - 8x - 7 = 1$
    $6x^2 - 8x - 8 = 0$
    $(6x + 4)(x - 2) = 0$
    $x = -2/3,\ 2$

12. $6x^2 + 36x + 13 = -17$
    $6x^2 + 36x + 30 = 0$
    $(x + 5)(6x + 6) = 0$
    $x = -5\ ,\ -1$

Solving Quadratic Equations (C)

Solve each equation for x

1. $18x^2 + 6x - 10 = 14$

2. $12x^2 + 25x - 3 = 4$

3. $56x^2 - 93x + 11 = -16$

4. $3x^2 + 17x - 11 = 17$

5. $4x^2 + 32x + 63 = -1$

6. $42x^2 + 66x + 15 = -9$

7. $24x^2 + 15x - 6 = 3$

8. $35x^2 + 44x - 6 = 1$

9. $16x^2 + 4x - 12 = 8$

10. $16x^2 - 56x + 14 = -10$

11. $21x^2 + 71x + 5 = -35$

12. $18x^2 + 15x + 1 = -2$

Solving Quadratic Equations (C) Answers

Solve each equation for x

1. $18x^2 + 6x - 10 = 14$
   $18x^2 + 6x - 24 = 0$
   $(3x + 4)(6x - 6) = 0$
   $x = -1\ 1/3,\ \ 1$

2. $12x^2 + 25x - 3 = 4$
   $12x^2 + 25x - 7 = 0$
   $(4x - 1)(3x + 7) = 0$
   $x = \ 1/4,\ \ -2\ 1/3$

3. $56x^2 - 93x + 11 = -16$
   $56x^2 - 93x + 27 = 0$
   $(7x - 9)(8x - 3) = 0$
   $x = 1\ 2/7,\ \ 3/8$

4. $3x^2 + 17x - 11 = 17$
   $3x^2 + 17x - 28 = 0$
   $(3x - 4)(x + 7) = 0$
   $x = 1\ 1/3,\ \ -7$

5. $4x^2 + 32x + 63 = -1$
   $4x^2 + 32x + 64 = 0$
   $(2x + 8)(2x + 8) = 0$
   $x = -4$

6. $42x^2 + 66x + 15 = -9$
   $42x^2 + 66x + 24 = 0$
   $(6x + 6)(7x + 4) = 0$
   $x = -1\ ,\ \ -4/7$

7. $24x^2 + 15x - 6 = 3$
   $24x^2 + 15x - 9 = 0$
   $(8x - 3)(3x + 3) = 0$
   $x = \ 3/8,\ \ -1$

8. $35x^2 + 44x - 6 = 1$
   $35x^2 + 44x - 7 = 0$
   $(7x - 1)(5x + 7) = 0$
   $x = \ 1/7,\ \ -1\ 2/5$

9. $16x^2 + 4x - 12 = 8$
   $16x^2 + 4x - 20 = 0$
   $(4x + 5)(4x - 4) = 0$
   $x = -1\ 1/4,\ \ 1$

10. $16x^2 - 56x + 14 = -10$
    $16x^2 - 56x + 24 = 0$
    $(8x - 4)(2x - 6) = 0$
    $x = \ 1/2,\ \ 3$

11. $21x^2 + 71x + 5 = -35$
    $21x^2 + 71x + 40 = 0$
    $(3x + 8)(7x + 5) = 0$
    $x = -2\ 2/3,\ \ -5/7$

12. $18x^2 + 15x + 1 = -2$
    $18x^2 + 15x + 3 = 0$
    $(3x + 1)(6x + 3) = 0$
    $x = -1/3,\ \ -1/2$

Solving Quadratic Equations (D)

Solve each equation for x

1. $21x^2 - 66x + 1 = -8$
2. $36x^2 + 84x + 35 = -13$
3. $45x^2 + 8x - 2 = 2$
4. $12x^2 - 22x + 6 = -2$
5. $4x^2 + 15x - 10 = 15$
6. $8x^2 - 43x + 7 = -8$
7. $63x^2 - 33x - 15 = 3$
8. $28x^2 - 91x + 21 = -42$
9. $18x^2 - 18x - 20 = 16$
10. $12x^2 + 50x + 21 = -7$
11. $27x^2 + 57x - 59 = 13$
12. $40x^2 + 17x - 4 = 1$

Solving Quadratic Equations (D) Answers

Solve each equation for x

1. $21x^2 - 66x + 1 = -8$
   $21x^2 - 66x + 9 = 0$
   $(3x - 9)(7x - 1) = 0$
   $x = 3 \ , \ \ 1/7$

2. $36x^2 + 84x + 35 = -13$
   $36x^2 + 84x + 48 = 0$
   $(6x + 6)(6x + 8) = 0$
   $x = -1 \ , \ -1\ 1/3$

3. $45x^2 + 8x - 2 = 2$
   $45x^2 + 8x - 4 = 0$
   $(9x - 2)(5x + 2) = 0$
   $x = \ 2/9, \ -2/5$

4. $12x^2 - 22x + 6 = -2$
   $12x^2 - 22x + 8 = 0$
   $(6x - 8)(2x - 1) = 0$
   $x = 1\ 1/3, \ \ 1/2$

5. $4x^2 + 15x - 10 = 15$
   $4x^2 + 15x - 25 = 0$
   $(4x - 5)(x + 5) = 0$
   $x = 1\ 1/4, \ -5$

6. $8x^2 - 43x + 7 = -8$
   $8x^2 - 43x + 15 = 0$
   $(x - 5)(8x - 3) = 0$
   $x = 5 \ , \ \ 3/8$

7. $63x^2 - 33x - 15 = 3$
   $63x^2 - 33x - 18 = 0$
   $(9x + 3)(7x - 6) = 0$
   $x = -1/3, \ \ 6/7$

8. $28x^2 - 91x + 21 = -42$
   $28x^2 - 91x + 63 = 0$
   $(4x - 9)(7x - 7) = 0$
   $x = 2\ 1/4, \ \ 1$

9. $18x^2 - 18x - 20 = 16$
   $18x^2 - 18x - 36 = 0$
   $(2x - 4)(9x + 9) = 0$
   $x = 2 \ , \ \ -1$

10. $12x^2 + 50x + 21 = -7$
    $12x^2 + 50x + 28 = 0$
    $(6x + 4)(2x + 7) = 0$
    $x = -2/3, \ \ -3\ 1/2$

11. $27x^2 + 57x - 59 = 13$
    $27x^2 + 57x - 72 = 0$
    $(3x + 9)(9x - 8) = 0$
    $x = -3 \ , \ \ 8/9$

12. $40x^2 + 17x - 4 = 1$
    $40x^2 + 17x - 5 = 0$
    $(8x + 5)(5x - 1) = 0$
    $x = -5/8, \ \ 1/5$

Solving Quadratic Equations (E)

Solve each equation for x

1. $21x^2 + 45x - 24 = 30$
2. $36x^2 - 12x - 1 = 7$
3. $20x^2 + 7x - 48 = 1$
4. $56x^2 - 82x + 23 = -7$
5. $63x^2 - 33x - 3 = 3$
6. $28x^2 + 84x + 50 = -6$
7. $81x^2 + 18x - 14 = 1$
8. $63x^2 + 10x - 7 = 1$
9. $9x^2 + 70x + 8 = -41$
10. $2x^2 + 14x + 4 = -20$
11. $4x^2 + 18x - 20 = 16$
12. $x^2 - 3x - 10 = 30$

Solving Quadratic Equations (E) Answers

Solve each equation for x

1. $21x^2 + 45x - 24 = 30$
   $21x^2 + 45x - 54 = 0$
   $(7x - 6)(3x + 9) = 0$
   $x = 6/7, \ -3$

2. $36x^2 - 12x - 1 = 7$
   $36x^2 - 12x - 8 = 0$
   $(6x + 2)(6x - 4) = 0$
   $x = -1/3, \ 2/3$

3. $20x^2 + 7x - 48 = 1$
   $20x^2 + 7x - 49 = 0$
   $(4x + 7)(5x - 7) = 0$
   $x = -1\ 3/4, \ 1\ 2/5$

4. $56x^2 - 82x + 23 = -7$
   $56x^2 - 82x + 30 = 0$
   $(8x - 6)(7x - 5) = 0$
   $x = 3/4, \ 5/7$

5. $63x^2 - 33x - 3 = 3$
   $63x^2 - 33x - 6 = 0$
   $(7x + 1)(9x - 6) = 0$
   $x = -1/7, \ 2/3$

6. $28x^2 + 84x + 50 = -6$
   $28x^2 + 84x + 56 = 0$
   $(4x + 8)(7x + 7) = 0$
   $x = -2 \ , \ -1$

7. $81x^2 + 18x - 14 = 1$
   $81x^2 + 18x - 15 = 0$
   $(9x + 5)(9x - 3) = 0$
   $x = -5/9, \ 1/3$

8. $63x^2 + 10x - 7 = 1$
   $63x^2 + 10x - 8 = 0$
   $(9x + 4)(7x - 2) = 0$
   $x = -4/9, \ 2/7$

9. $9x^2 + 70x + 8 = -41$
   $9x^2 + 70x + 49 = 0$
   $(x + 7)(9x + 7) = 0$
   $x = -7 \ , \ -7/9$

10. $2x^2 + 14x + 4 = -20$
    $2x^2 + 14x + 24 = 0$
    $(2x + 8)(x + 3) = 0$
    $x = -4 \ , \ -3$

11. $4x^2 + 18x - 20 = 16$
    $4x^2 + 18x - 36 = 0$
    $(x + 6)(4x - 6) = 0$
    $x = -6 \ , \ 1\ 1/2$

12. $x^2 - 3x - 10 = 30$
    $x^2 - 3x - 40 = 0$
    $(x - 8)(x + 5) = 0$
    $x = 8 \ , \ -5$