Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $11x^2 - 7x - 16 = -13$

2) $-18r^2 - 6r - 2 = -4r^2 - 2$

3) $13n^2 - 14n - 5 = 7$

4) $13a^2 + 20 = -10a + 13$

5) $-11v^2 - 26v - 8 = -14v$

6) $4x^2 + 18x + 22 = 13 + 6x$

7) $10x^2 - 8x = 9 - 2x + 11x^2$

8) $5n^2 + 5 = 2n^2 + 2 + 6n$

9) $-2k^2 - 4k + 2 = -k$

10) $-8p^2 - 11p - 9 = -9 - 4p^2$

11) $-7x^2 = -5 - 3x$

12) $-6n^2 + 18 = -6n + 5$

13) $-m^2 + 19m + 9 = 12m^2 + 11m$

14) $-23r^2 - 6r - 6 = -12r^2$

15) $18x^2 - 2x + 12 = 8x^2$

16) $7n^2 + 14n - 6 = -13$

17) $7b^2 + 6b = -1 - 2b^2$

18) $4v^2 - 5 = -6 - 4v$

19) $-20x^2 - 7x + 7 = -3 - 8x^2$

20) $-7n^2 + 11n - 3 = n^2$

21) $14a^2 + a - 10 = 4a^2$

22) $7k^2 + 3k - 4 = 1$

23) $2p^2 + 9p + 12 = 13p^2$

24) $5x^2 + 14 = 6x - 5x^2 + 7$

Answers to Assignment (ID: 1)

1) 181; two irrational solutions
2) 36; two rational solutions
3) 820; two irrational solutions
4) –264; two imaginary solutions
5) –208; two imaginary solutions
6) 0; one rational solution
7) 0; one rational solution
8) 0; one rational solution
9) 25; two rational solutions
10) 121; two rational solutions
11) 149; two irrational solutions
12) 348; two irrational solutions
13) 532; two irrational solutions
14) –228; two imaginary solutions
15) –476; two imaginary solutions
16) 0; one rational solution
17) 0; one rational solution
18) 0; one rational solution
19) 529; two rational solutions
20) 25; two rational solutions
21) 401; two irrational solutions
22) 149; two irrational solutions
23) 609; two irrational solutions
24) –244; two imaginary solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $7m^2 - 14m = -7$

2) $-x^2 + 6x - 1 = 8$

3) $-13r^2 = 4 - 4r^2 - 12r$

4) $-14n^2 + 8n - 9 = n - 7$

5) $16n^2 + 3 = 12n^2 + 13n$

6) $-7b^2 + 10 = 9b$

7) $-10v^2 - 14v + 16 = 13$

8) $9x^2 + 10x = 2 - 4x$

9) $9n^2 - 2n = 14n^2 - 10$

10) $-11v^2 - 4 = 6v - 6v^2$

11) $7a^2 + 17a + 4 = -8 + 10a$

12) $-4x^2 - 9 = 12x$

13) $-10x^2 - 6x - 1 = -x^2$

14) $-4n^2 - 10 = 13n$

15) $12k^2 - 9k - 5 = -2k + 5$

16) $-8p^2 - 10p + 14 = -p$

17) $2x^2 - 14x = 7$

18) $-8n^2 - 8n = -13n^2 + 4n + 12$

19) $-3m^2 + 15m + 2 = 4m - 9m^2 - 12$

20) $20r^2 - 8r + 4 = -12r + 14r^2$

21) $-7x^2 + 2x - 20 = 12x - 14$

22) $-2b^2 + 13b + 4 = b - 11b^2$

23) $-v^2 - 4v = -5$

24) $3n^2 - 7n = -3 - n$

Answers to Assignment (ID: 2)

1) 0; one rational solution 2) 0; one rational solution 3) 0; one rational solution
4) −63; two imaginary solutions 5) 121; two rational solutions 6) 361; two rational solutions
7) 316; two irrational solutions 8) 268; two irrational solutions 9) 204; two irrational solutions
10) −44; two imaginary solutions 11) −287; two imaginary solutions 12) 0; one rational solution
13) 0; one rational solution 14) 9; two rational solutions 15) 529; two rational solutions
16) 529; two rational solutions 17) 252; two irrational solutions 18) 384; two irrational solutions
19) −215; two imaginary solutions 20) −80; two imaginary solutions 21) −68; two imaginary solutions
22) 0; one rational solution 23) 36; two rational solutions 24) 0; one rational solution

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-7x^2 + 19x - 3 = 9x$

2) $-4n^2 - 5n - 1 = 9n - 9$

3) $12a^2 - 6a - 13 = -2 + 2a^2 + 5a$

4) $-10k^2 + 15k + 10 = 10k$

5) $-p^2 + p = 14p - 5p^2 - 13$

6) $13x^2 - 9x + 21 = -6x + 8$

7) $-9n^2 + 4n - 20 = -14$

8) $-8m^2 + 17m + 7 = 9m + 9$

9) $r^2 - 4r = -4$

10) $11x^2 + 13x - 12 = -12$

11) $-3n^2 - 2n = -2n^2$

12) $-8b^2 - 3b + 6 = -11b$

13) $11v^2 + 13v - 4 = 8v$

14) $10x^2 = 14 - 3x^2 + 14x$

15) $7n^2 + 3n + 13 = 3n^2$

16) $-12a^2 - 8 = 11a$

17) $-10v^2 - 3v - 4 = -9v - 13v^2 - 7$

18) $-8x^2 - 4x - 8 = 4x - 6x^2$

19) $-9x^2 - 8x = -5x^2 + 4$

20) $17n^2 - 4n - 3 = 10n^2$

21) $-4k^2 - 13k - 14 = -11$

22) $-p^2 + 8p - 22 = -14$

23) $10x^2 - 10 = -8x + 1$

24) $19n^2 + 12n - 10 = 8n + 7n^2$

Answers to Assignment (ID: 3)

1) 16; two rational solutions
2) 324; two rational solutions
3) 561; two irrational solutions
4) 425; two irrational solutions
5) −39; two imaginary solutions
6) −667; two imaginary solutions
7) −200; two imaginary solutions
8) 0; one rational solution
9) 0; one rational solution
10) 169; two rational solutions
11) 4; two rational solutions
12) 256; two rational solutions
13) 201; two irrational solutions
14) 924; two irrational solutions
15) −199; two imaginary solutions
16) −263; two imaginary solutions
17) 0; one rational solution
18) 0; one rational solution
19) 0; one rational solution
20) 100; two rational solutions
21) 121; two rational solutions
22) 32; two irrational solutions
23) 504; two irrational solutions
24) 496; two irrational solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $14m^2 - m + 18 = 8$

2) $-3r^2 - 13r - 14 = 6r^2$

3) $17x^2 + 11x + 10 = 9 + 7x + 13x^2$

4) $-n^2 - 1 = -2n$

5) $5b^2 - 11b + 14 = 9 - b$

6) $11v^2 - 21 = 4v - 14$

7) $x^2 = -3 - 4x$

8) $18x^2 = 14x + 13x^2 + 4$

9) $-6a^2 - 3a + 10 = 10a + 11$

10) $5k^2 - 7 + 14k = 14k$

11) $14p^2 = 10p^2 - 12 - 3p$

12) $-12x^2 - 8x - 15 = -6 - 10x^2$

13) $-4m^2 + 2m = 1 - 2m$

14) $r^2 + 18r + 20 = 10r - r^2 + 12$

15) $4x^2 - 5x - 5 = -13x$

16) $-n^2 + 19n = 11 + 7n$

17) $-11b^2 - 14b + 8 = -13b^2$

18) $17v^2 - 15 = 9v^2 - 12 + 8v$

19) $8x^2 - 12 = 13x$

20) $18n^2 - 2n + 11 = 4 - 11n + 8n^2$

21) $6a^2 + a + 1 = -9$

22) $6k^2 + 16k + 6 = 4k$

23) $-12x^2 - 22x - 3 = -10x$

24) $-22x^2 - 11x - 7 = -8x^2 - 10$

Answers to Assignment (ID: 4)

1) −559; two imaginary solutions
2) −335; two imaginary solutions
3) 0; one rational solution
4) 0; one rational solution
5) 0; one rational solution
6) 324; two rational solutions
7) 4; two rational solutions
8) 276; two irrational solutions
9) 145; two irrational solutions
10) 140; two irrational solutions
11) −183; two imaginary solutions
12) −8; two imaginary solutions
13) 0; one rational solution
14) 0; one rational solution
15) 144; two rational solutions
16) 100; two rational solutions
17) 132; two irrational solutions
18) 160; two irrational solutions
19) 553; two irrational solutions
20) −199; two imaginary solutions
21) −239; two imaginary solutions
22) 0; one rational solution
23) 0; one rational solution
24) 289; two rational solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $2k^2 + 9k + 5 = -11k^2 + 5$

2) $11n^2 - 12n + 1 = 1 + 13n^2$

3) $-9p^2 + 2p + 12 = 7$

4) $-3x^2 + 5x - 15 = -14 - 9x$

5) $-7n^2 - 8n = 13$

6) $16m^2 + 6m = 12m - 12 + 12m^2$

7) $-11r^2 - 9r = 10$

8) $6x^2 + 6 = -12x$

9) $3n^2 - 18n - 2 = -14n + 5n^2$

10) $22b^2 - 11b + 3 = 2b + 12b^2$

11) $2v^2 - 3v + 4 = 3$

12) $-6x^2 + 5x - 3 = -2x - 12x^2$

13) $-5x^2 + 27x = 13x + 7x^2 - 13$

14) $-6a^2 + 4a - 5 = -11a^2$

15) $5k^2 - 13k + 14 = -10k$

16) $7p^2 - 8p + 7 = -p$

17) $8m^2 - 8m + 3 = 1$

18) $-15n^2 - 18n - 9 = -14n^2 - 12n$

19) $-21x^2 + 24x - 12 = -7x^2 + 11x$

20) $4r^2 = -8r^2 - r$

21) $-3x^2 - 7x = -12x + 2$

22) $-10n^2 - 2 = -12n$

23) $-14b^2 = -b^2 - 14b - 3$

24) $-5v^2 - 27v - 11 = -14v^2 - 14v$

Answers to Assignment (ID: 5)

1) 81; two rational solutions
2) 144; two rational solutions
3) 184; two irrational solutions
4) 184; two irrational solutions
5) −300; two imaginary solutions
6) −156; two imaginary solutions
7) −359; two imaginary solutions
8) 0; one rational solution
9) 0; one rational solution
10) 49; two rational solutions
11) 1; two rational solutions
12) 121; two rational solutions
13) 820; two irrational solutions
14) 116; two irrational solutions
15) −271; two imaginary solutions
16) −147; two imaginary solutions
17) 0; one rational solution
18) 0; one rational solution
19) −503; two imaginary solutions
20) 1; two rational solutions
21) 1; two rational solutions
22) 64; two rational solutions
23) 352; two irrational solutions
24) 565; two irrational solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-11x^2 + 5x - 28 = -14$

2) $-7a^2 - 4 = 7a + a^2$

3) $-5n^2 - 6n - 5 = -9n$

4) $-k^2 - 8 = -2k - 7$

5) $12x^2 + 12x + 4 = 1$

6) $10x^2 - 13x - 3 = -3x^2 - 3$

7) $4n^2 = 1 + 5n + 10n^2$

8) $-8k^2 - 3k + 11 = -5k^2$

9) $-p^2 - 8p + 1 = -1$

10) $x^2 + 19x - 8 = 5x$

11) $-11n^2 + 4n - 11 = 10n$

12) $3m^2 + 4 = -5m$

13) $r^2 - 8r + 4 = -4r$

14) $-6x^2 + 2x - 11 = -12 - 7x^2$

15) $7n^2 + 12n - 9 = 11n^2$

16) $4v^2 + 7v = 2$

17) $-3b^2 + 2b = 5b^2 - 7b$

18) $14x^2 - 17x - 12 = -13x$

19) $6x^2 + 14x + 3 = 8x^2$

20) $13a^2 - 8a - 15 = -8$

21) $-10k^2 - 10k - 4 = 9$

22) $5p^2 - 7p - 4 = -14 - 13p$

23) $3n^2 - 23n + 13 = -11n + 1$

24) $-4m^2 + 4m - 2 = -1$

Answers to Assignment (ID: 6)

1) −591; two imaginary solutions
2) −79; two imaginary solutions
3) −91; two imaginary solutions
4) 0; one rational solution
5) 0; one rational solution
6) 169; two rational solutions
7) 1; two rational solutions
8) 141; two irrational solutions
9) 72; two irrational solutions
10) 228; two irrational solutions
11) −448; two imaginary solutions
12) −23; two imaginary solutions
13) 0; one rational solution
14) 0; one rational solution
15) 0; one rational solution
16) 81; two rational solutions
17) 81; two rational solutions
18) 688; two irrational solutions
19) 220; two irrational solutions
20) 428; two irrational solutions
21) −420; two imaginary solutions
22) −164; two imaginary solutions
23) 0; one rational solution
24) 0; one rational solution

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-7n^2 + 7n = -9$

2) $-12r^2 - 16r = -9r + 1$

3) $6x^2 + 9x = 2x^2 + 10x + 3$

4) $-6b^2 - 6b = 11 - 9b^2$

5) $9v^2 + 1 = 3 + 6v$

6) $7x^2 - 19x + 10 = -11x + 1$

7) $-3n^2 + 15n - 10 = 6n$

8) $4a^2 + 4 = 8a$

9) $-6k^2 + 12k - 13 = -7$

10) $3x^2 + 19x = -1 - 6x^2 + 13x$

11) $6n^2 - n - 5 = 2n^2$

12) $13x^2 + 4x - 9 = 10x + 10x^2$

13) $-5m^2 + 7m - 2 = -4 + 12m$

14) $19p^2 - 5 = -7 + 8p^2 - 12p$

15) $-3x^2 - 3x - 10 = -2$

16) $6n^2 + 6n + 10 = 8n - 3n^2$

17) $13m^2 + 9m + 9 = 6m$

18) $-8r^2 + 8r + 5 = 7$

19) $16x^2 + 12x + 12 = 13x^2$

20) $-10n^2 + 27 = 14 - 3n$

21) $-11b^2 + 9b = 0$

22) $-22v^2 - 7v = -10v^2 + 2v - 3$

23) $-10x^2 - 15x + 6 = -5x$

24) $-21x^2 - 17x = 1 - 13x^2 - 3x$

Answers to Assignment (ID: 7)

1) 301; two irrational solutions
2) 1; two rational solutions
3) 49; two rational solutions
4) 168; two irrational solutions
5) 108; two irrational solutions
6) −188; two imaginary solutions
7) −39; two imaginary solutions
8) 0; one rational solution
9) 0; one rational solution
10) 0; one rational solution
11) 81; two rational solutions
12) 144; two rational solutions
13) 65; two irrational solutions
14) 56; two irrational solutions
15) −87; two imaginary solutions
16) −356; two imaginary solutions
17) −459; two imaginary solutions
18) 0; one rational solution
19) 0; one rational solution
20) 529; two rational solutions
21) 81; two rational solutions
22) 225; two rational solutions
23) 340; two irrational solutions
24) 164; two irrational solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-8a^2 - 3a = 11 - 13a$

2) $-16p^2 + 13p - 4 = -3p^2$

3) $-5k^2 + 4k + 7 = -13k^2$

4) $-4x^2 + 6x = -3 - 7x^2$

5) $-14m^2 - 10m + 6 = -5m$

6) $12n^2 - 5n = 10n^2 + 3n - 8$

7) $-4r^2 - 1 = -5r$

8) $-2x^2 + 12x - 2 = 8x - 8x^2$

9) $-5n^2 + 12n = -4 - 7n^2$

10) $3b^2 - 3 = 9b$

11) $3v^2 - 6v = -10$

12) $6x^2 + 4x + 8 = -6x$

13) $-6n^2 - 12n = -10 - 11n^2$

14) $-3a^2 + 14a + 6 = 4a^2 + 13$

15) $-k^2 + 5k + 6 = 9k + 10$

16) $-22x^2 + 8 = -9x^2 - 5x$

17) $4x^2 + x = -5x^2 + 12 - 11x$

18) $-4n^2 - 25n - 4 = -12n + 5n^2$

19) $-2p^2 + 23p - 11 = 9p$

20) $-2m^2 = -6 + 12m^2 - 3m$

21) $-12x^2 - 13 = 9x$

22) $23n^2 - 3n + 3 = -5 + 13n^2$

23) $-5m^2 + 4m - 4 = -4m^2$

24) $4r^2 + r + 16 = -2r^2 + 13r + 10$

Answers to Assignment (ID: 8)

1) −252; two imaginary solutions
2) −39; two imaginary solutions
3) −208; two imaginary solutions
4) 0; one rational solution
5) 361; two rational solutions
6) 0; one rational solution
7) 9; two rational solutions
8) 64; two rational solutions
9) 112; two irrational solutions
10) 117; two irrational solutions
11) −84; two imaginary solutions
12) −92; two imaginary solutions
13) −56; two imaginary solutions
14) 0; one rational solution
15) 0; one rational solution
16) 441; two rational solutions
17) 576; two rational solutions
18) 25; two rational solutions
19) 108; two irrational solutions
20) 345; two irrational solutions
21) −543; two imaginary solutions
22) −311; two imaginary solutions
23) 0; one rational solution
24) 0; one rational solution

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $2n^2 - n = 12 + 4n$

2) $14x^2 - 8x + 2 = 6x^2$

3) $-15b^2 - 10b - 14 = -12b^2 - 6$

4) $-3v^2 + 7v + 12 = -5v$

5) $2x^2 + 5x - 8 = 5$

6) $3x^2 - 5x - 18 = -11$

7) $2a^2 - 2a + 10 = -4$

8) $-k^2 + 13 = 6k - 8k^2$

9) $-12x^2 + 8x - 8 = -10x^2$

10) $6p^2 - 12p - 1 = -7$

11) $-9m^2 - 2m = -4m$

12) $5r^2 - 12r - 4 = -8$

13) $2x^2 - 5x = -4 + 5x$

14) $14n^2 + 11n - 7 = 1$

15) $19b^2 + 7b - 1 = 10b^2$

16) $-5v^2 = 10v + 12$

17) $10x^2 - 3x = -4 - 7x$

18) $9n^2 + n + 1 = -5n$

19) $4a^2 + 4a + 9 = 8$

20) $15x^2 - 5x - 8 = 4x^2 - 2x$

21) $-x^2 - 3x - 9 = -13$

22) $-6n^2 - 9n + 3 = -5n - 8$

23) $-4m^2 - 9m = -2$

24) $-4p^2 - 19 = -11 + 14p$

Answers to Assignment (ID: 9)

1) 121; two rational solutions
2) 0; one rational solution
3) 4; two rational solutions
4) 288; two irrational solutions
5) 129; two irrational solutions
6) 109; two irrational solutions
7) −108; two imaginary solutions
8) −328; two imaginary solutions
9) 0; one rational solution
10) 0; one rational solution
11) 4; two rational solutions
12) 64; two rational solutions
13) 68; two irrational solutions
14) 569; two irrational solutions
15) 85; two irrational solutions
16) −140; two imaginary solutions
17) −144; two imaginary solutions
18) 0; one rational solution
19) 0; one rational solution
20) 361; two rational solutions
21) 25; two rational solutions
22) 280; two irrational solutions
23) 113; two irrational solutions
24) 68; two irrational solutions

Name_____

Assignment

Date_____ Period____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $11x^2 - 2x + 10 = -13x$

2) $10n^2 + 2n + 6 = -7$

3) $b^2 + 2b + 8 = 7$

4) $-24r^2 + 12r - 1 = -12r^2 + 2$

5) $13x^2 - x + 4 = 5 + 10x^2 - 3x$

6) $10n^2 + 11n + 15 = 14$

7) $-3b^2 + 2b = 8 - 9b$

8) $-2v^2 - 8v - 7 = -10v^2$

9) $6x^2 - 18 = -3x - 4$

10) $-2x^2 + 3 = 14 + 4x$

11) $4a^2 - 18a + 13 = -5a - 6a^2$

12) $4k^2 + 9k + 3 = -8k^2$

13) $12p^2 - 12p = -3$

14) $-2x^2 = 8 + 8x$

15) $-14n^2 + 6 = 5n$

16) $-25m^2 + 11m + 5 = -13m^2$

17) $12r^2 + 12r + 2 = -r - 1$

18) $-10x^2 + 15x = -9 + 7x$

19) $17n^2 + 4n - 10 = 14n^2 + n$

20) $-10b^2 - 6b - 8 = -3b - 3b^2$

21) $-10v^2 - 1 = 6v + 7$

22) $3x^2 + 10x + 8 = -6$

23) $4n^2 - 11n + 13 = n + 4$

24) $-a^2 + 11a - 4 = 7a$

Answers to Assignment (ID: 10)

1) −319; two imaginary solutions
2) −516; two imaginary solutions
3) 0; one rational solution
4) 0; one rational solution
5) 16; two rational solutions
6) 81; two rational solutions
7) 25; two rational solutions
8) 288; two irrational solutions
9) 345; two irrational solutions
10) −72; two imaginary solutions
11) −351; two imaginary solutions
12) −63; two imaginary solutions
13) 0; one rational solution
14) 0; one rational solution
15) 361; two rational solutions
16) 361; two rational solutions
17) 25; two rational solutions
18) 424; two irrational solutions
19) 129; two irrational solutions
20) −215; two imaginary solutions
21) −284; two imaginary solutions
22) −68; two imaginary solutions
23) 0; one rational solution
24) 0; one rational solution