

7.7 I can use the discriminant to determine the number and type of roots for a given quadratic function.

What is it asking you to do? _____

Notes

7) $3b^2 - 7b = 0$

8) $4v^2 - 4v + 5 = 4$

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

1) $6x^2 + 4x + 4 = 0$

2) $5m^2 + 7 = 0$

3) $10n^2 - 9n + 3 = 0$

4) $-6x^2 + 9x + 1 = -5$

5) $-3n^2 + 7n - 5 = -3$

6) $2r^2 - 7r - 7 = -7$

7.8 I can solve quadratic equations with complex number systems.

What is it asking you to do? _____

Notes:

Define Root: _____

Solution: _____

15) $11n^2 + 5n = -12$

16) $7m^2 = -1$

Solve each equation with the quadratic formula.

9) $4x^2 + 10x + 11 = 0$

10) $12x^2 - 6x + 6 = 0$

11) $6a^2 + 19 = 8$

12) $8k^2 + 2k + 8 = 5$

13) $12x^2 + 3 = -6x$

14) $12p^2 + 4 = 0$

7.9 I can identify complex numbers and write their conjugates.

What is it asking you to do? _____

Notes:

$$\sqrt{-88}$$

$$i^{35}$$

What is the conjugate of $-2 - 3i$

$$-\sqrt{-36}$$

$$\sqrt{-48}$$

$$\sqrt{-300}$$

$$\sqrt{-75}$$

$$i^{26}$$

$$i^{41}$$

$$i^{341}$$

$$i^{126}$$

Find the conjugate

$$-4 + 5i$$

$$20 - 7i$$

$$6 + 3i$$

$$-8 + 9i$$

7.10 I can add and subtract complex numbers.

What is it asking you to do? _____

Notes:

$$23) (3 + 2i) - (8 - 7i)$$

$$24) (-2 - 4i) + (-8 + 2i)$$

Simplify.

$$17) (2 + 3i) + (2 - 7i)$$

$$18) (-1 - 8i) - (5 + 8i)$$

$$19) (6 - 7i) + (8 + 3i)$$

$$20) (7 - 4i) - 6 + (5i)$$

$$21) (-2 - i) - (-7 - i)$$

$$22) (6 + 8i) + (2 + 7i)$$

7.11 I can multiply complex numbers.

What is it asking you to do? _____

Notes:

33) $(-1 + 4i)^2$

34) $-5(-8i)(-5 - 7i)$

27) $(2 - 7i)(-7 - 4i)$

28) $(8 + 4i)(2 + 5i)$

29) $(1 + 8i)(3 + 8i)$

30) $(6 + i)^2$

31) $(6 + 2i)^2$

32) $(8 + 2i)^2$

7.12 I can simplify quotients of complex numbers.

What is it asking you to do? _____

Notes:

$$41) \frac{6 - 8i}{-8i}$$

$$42) \frac{2 - 8i}{9 - i}$$

$$35) \frac{-6 - 2i}{i}$$

$$36) \frac{1 + 8i}{5i}$$

$$37) -\frac{5}{8i}$$

$$38) \frac{-7 + 6i}{3 - 5i}$$

$$39) \frac{5 + 10i}{7 + 6i}$$

$$40) \frac{7 + 7i}{10 - 5i}$$