

4.4 through 4.6 Quiz Review

Solve each quadratic equation. Be sure to express your answer in terms of i .

1. $4x^2 + 25 = 0$

2. $x^2 = -98$

3. $x^2 + 75 = 0$

4. $3x^2 = -108$

Performing math operations with complex numbers. Write answer in a+bi form.

5. $(7 + 6i) - (-3 + 8i)$

6. $(5 + 3i) + (-7 - 9i)$

7. $(1 + 2i)(1 - 2i)$

8. $(9 + 2i)(4 + 2i)$

9. $-3i(5 - 7i)$

10. $(2 + 3i)^2$

Simplify:

1. $\frac{2+4i}{3i}$

12. $\frac{1+6i}{1-2i}$

13. $-5i^{18}$

14. $3i^{25}$

15. $-6i^{16}$

16. $\sqrt{-6} * \sqrt{-15}$

What value of “c” would need to be added to the expression in order for it to be a perfect square trinomial? What will the perfect square factor be?

17) $x^2 + 4x + c$

18) $x^2 - 18x + c$

19) $x^2 + 7x + c$

Solve the following equations using the Square Root Property. SHOW ALL YOUR WORK!

20) $x^2 + 10x + 25 = 49$

21) $4x^2 - 20x + 25 = 81$

Solve the following equations by completing the square. SHOW ALL YOUR WORK!

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

23) $x^2 + 6x - 4 = 5$

24) $x^2 - 12x + 52 =$

25) $2x^2 + 5x + 12 = 0$

Find the discriminant and use it to find the type and the number of roots. SHOW ALL YOUR WORK! Don't Find the Solutions!

$$26) x^2 - 10x = 11$$

$$27) x^2 + 34x + 289 = 0$$

$$28) 2x^2 + 6x - 5 = 2$$

$$29) x^2 - 4x = -13$$

Solve the following equation using the Quadratic Formula. SHOW ALL YOUR WORK!

$$30) 2x^2 + 25x + 33 = 0$$

$$31) x^2 + 8x = -16$$

$$32) 3x^2 + 5x = -1$$

$$33) 3x^2 + 5x + 4 = 0$$