

Math 2: Unit 3- Quadratic Practice problems

SHOW ALL WORK.

Factor out the GCF.

1. $3S^2U + 27SU^2$

2. $4Y^4 + 2Y$

Factor by grouping.

3. $3xy^2 + xy + 6xy^2 + 2xy$

Using your strategies:

Factor completely or state "prime."

4. $4x^2 - 36$

5. $4x^2 - 32$

6. $x^2 + 5x + 6$

7. $x^2 + 16$

8. $5n^3 - 10n^2 + 3n - 6$

Solve by factoring.

9. $2x^2 + 15x + 18 = 0$

10. $2R^2 - 8R = 0$

Solve by factoring or taking square roots.

11. $25x^2 - 64 = 0$

12. $x^2 = 81$

Solve by completing the square.

13. $x^2 - 10x + 18 = 0$

14. $X^2 + 2X = -19$

Solve by using the quadratic formula.

15. $4x^2 + 4x - 9 = 0$

16. $S^2 - 4S + 5 = 0$

Discriminants: Find the discriminant. Determine the type and number of solutions there will be.

17. $v^2 - 2v = 3$

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

Solve by finding zeros in calculator or state "no real solutions". Round solutions to 2 decimal places.

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

20. $2x^2 + 7x = -4$

Simplify the following expressions using complex numbers. No decimals!

21. $4\sqrt{-27}$

22. $\sqrt{-121}$

Add, subtract or multiply the complex numbers as indicated. Answers should be simplified. (Remember, you can check in calculator!)

23. $4i + 9i$

24. $(8 + 6i) + (-3 - 4i)$

25. $(3i)(8i)$

26. $(6 + 2i)(3 - 9i)$