

Polynomial Equations

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

Instructions:

- Solve by using the Zero-Factor Property.
 - Express your final answer using solution set.
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1. $(x + 7)(x - 5) = 0$

4. $-5x(7x + 10) = 0$

2. $(2x + 9)(3x - 5) = 0$

5. $(x - 4)(x + 4)(2x + 11) = 0$

3. $4x(5x - 8) = 0$

6. $(2x - 5)(2x + 5)(4x - 7)(4x + 7) = 0$

Instructions:

- Write the equation in standard form.
 - Factor completely.
 - Solve by using the Zero-Factor Property.
 - Express your final answer using solution set.
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7. $x^2 - 2x - 15 = 0$

13. $3x^2 + 2 = 7x$

8. $x^2 - 13x + 36 = 0$

14. $x^3 - 5x^2 - 4x + 20 = 0$

9. $x^2 + 8x = -15$

15. $4x^2 + 1 = -4x$

10. $x^2 + 100 = 20x$

16. $10x^3 = 13x^2 + 3x$

11. $3x^2 = 5 - 2x$

17. $16x^2 = 25$

12. $4x^2 = 5x + 6$

18. $2x^3 = 98x$

Instructions:

- Use FOIL or other methods to multiply in order to write the equation in standard form.
 - Factor completely.
 - Solve by using the Zero-Factor Property.
 - Express your final answer using solution set.
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19. $(x + 3)(x + 2) = 20$

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

20. $(3x - 1)(x + 1) = 7$

23. $x^2 + (x - 2)^2 = (x + 2)^2$

21. $(3x - 2)(3x + 2) = 5$

24. $x^2 + (2x + 2)^2 = (2x + 3)^2$

Instructions:

- Write the equation in standard form $ax^2 + bx + c = 0$.
 - Identify a , b , and c .
 - Compute $b^2 - 4ac$.
 - Use the quadratic formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ to solve.
 - Express your final answer using solution set.
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25. $x^2 + 12x - 13 = 0$

30. $x^2 - 10x = -25$

26. $2x^2 - 5 = 3x$

31. $x^2 + 36 = -12x$

27. $2x^2 - 7x = 30$

32. $(3x - 2)(2x - 3) = -1$

28. $2x^2 + 5x = 12$

33. $0.6x - 0.4x^2 + 1 = 0$

29. $9x^2 + 4 = 12x$

34. $\frac{1}{4}x + \frac{1}{2}x^2 = \frac{3}{2}$

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35. The product of two consecutive integers is 30. Use the quadratic formula in the process to find both integers.
36. The product of two consecutive odd integers is 63. Use the quadratic formula in the process to find both integers.
37. The product of two consecutive even integers is 80. Use the quadratic formula in the process to find both integers.
38. The area of a rectangle is 66 square feet. The length is 1 foot shorter than twice its width. Use the quadratic formula in the process to find the dimensions of this rectangle.
39. The area of a rectangle is 44 square feet. The length is 3 feet longer than twice its width. Use the quadratic formula in the process to find the dimensions of this rectangle.
40. Two legs of a right triangle are two consecutive even integers. The hypotenuse is 10 inches. Use the quadratic formula in the process to find the measure of both missing legs.
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