

SM2H 3.5 HW-Solving by Factoring**Find the zeros of each function in factored form of a quadratic equation.**

1. $(x-3)(x-6)=0$

2. $x(x-1)=0$

3. $\frac{1}{4}(x+2)(x+1)=0$

4. $5x^2=0$

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

6. $(7x+3)(8x+1)=0$

Find the zeros of each function in standard form by factoring.

7. $x^2 - 2x - 35 = 0$

8. $x^2 - 6x = -8$

9. $x^2 + 7x = 0$

10. $x^2 - 9 = 0$

11. $-3x^2 = 18x - 21$

12. $-14x^2 = 10x$

13. $5x^2 + 12 = 16x$

14. $16x^2 - 9 = 0$

15. $9x^2 + 12x + 4 = 0$

16. Explain what the zero product property means. Create a problem to illustrate your explanation.

Write an equation for each problem and then find the solution. Round decimal answers to the nearest hundredth. You must show your work!!!

17. Find two consecutive integers whose product is 30.

18. Find two consecutive integers whose product is 132.

19. Find two consecutive odd integers whose product is 63.

20. Find two consecutive even integers whose product is 288.

21. The product of two numbers is 168. One number is ten more than twice the other number. Find the two numbers.

22. The product of two numbers is 144. One number is two less than twice the other number. Find the two numbers.

23. A portrait is 9 inches longer than it is wide. The area of the portrait is 360 in^2 . What are the dimensions of the portrait?

24. The length of a garden is 2 feet longer than the width. If the area of the garden is 35 square feet, find the length and the width of the garden.

Find the zeros of each polynomial from factored form.

25. $f(x) = (x+2)(x-2)(x-3)$

26. $f(x) = 3x(x+2)(5x-4)$

Write an equation in factored form for the function with the given zeros.

27. $x = 4, 7, -2$

28. $x = 5, 4, -8, -6$

Write an equation in standard form for the function with the given zeros.

29. $x = 2, -3$

30. $x = -5, -7$

