Name: _____

Solving Equations in Factored Form

Use the zero product property to solve the equation.

1) $x(x + 7) = 0$

2) $y(y - 12) = 0$

3) $3r(r - 4) = 0$

4) $7a(a + 9) = 0$

5) $3t(4t - 32) = 0$

6) $x(5x - 10) = 0$

7) $(x - 6)(x + 4) = 0$

8) $(b - 3)(b - 5) = 0$

9) $(a+3)(3a - 12) = 0$

10) $(2y + 22)(y - 1) = 0$

11) $(2y+8)(3y+24) = 0$

12) $(4x+4)(2x + 6) = 0$

13) $(x - 3)(x - 3) = 0$

14) $(3x - 9)(5x - 15) = 0$

15) $x(3x + 2)(x - 7) = 0$

16) $x(x - 8)(2x + 7) = 0$

17) $(x+5)(4x - 7)(3x + 5) = 0$

18) $(x-1)(3x - 5)(4x - 7) = 0$

19) $(5x-1)(2x + 3)(x + 7) = 0$

20) $12x(4x - \frac{1}{2})(3x + \frac{1}{8}) = 0$

Write an equation in factored form given its solution set.

21) $\{-3, 5\}$

22) $\{0, -6\}$

23) $\{-9, -11, 12\}$

24) $\{2, -\frac{2}{3}\}$

25) $\{-\frac{3}{4}, -\frac{5}{6}\}$

26) $\{0, -7, -\frac{1}{3}\}$

Solve each problem. Disregard unreasonable solutions.

27) Suha told Maram, “The product of twice my age decreased by 32 and 5 times my age is zero. How old am I?”

28) The product of a certain positive number decreased by 5 and the same number increased by 7 is 0.What is the number?

29) The product of a certain negative number increased by 2 and the same number decreased by $\frac{3}{4}$ is 0. What is the number?

30) The result is zero when 7 is multiplied by the sum of 6 and a certain number. What is the number?

31) The product of two consecutive numbers is zero. Find the numbers.

32) The product of three consecutive even numbers is zero. Find the numbers.