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11. a)  $x = \left\{-2, \frac{5}{2}\right\}$                       b)  $x = \{3, 5\}$   
c)  $x = \{0, 1\}$                               d)  $x = \{-3, 3\}$   
e)  $x = \left\{0, -\frac{5}{2}\right\}$                       f)  $x = \{1, 5\}$   
g)  $x = \{-2, 1\}$                               h)  $x = \{2, 4\}$   
i)  $x = \{-1, 3\}$                               j)  $x = \{-1 - \sqrt{3}, -1 + \sqrt{3}\} \approx \{-2.73, 0.73\}$

13. a)  $x = \left\{-4, \frac{2}{3}\right\}$                               b)  $x = \left\{-\frac{5}{2}, 3\right\}$   
c)  $x = \{-1 - \sqrt{2}, -1 + \sqrt{2}\} \approx \{-2.41, 0.41\}$                       d)  $x = \{-3, 0, 1\}$

14. 70 *m*

15. a) No, the equation  $-t^2 + 8t = 20$  has no solution.  
b) 8 *seconds*  
c) 3 *seconds*

16. a) 9 *weeks*  
b) No, the equation  $2t^2 - 16t + 34 = 0$  has no solution.

17. 35 *years old*

18. 26 *units*

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19.  $4\text{ cm}$

20.  $9\text{ cm}$

21.  $27.7\text{ units}$

22.  $(2x-1)\text{ units}$