

# Solving Equations by Factoring

## Ch. 5 Sec 8

Last updated 3/30/2012

In each equation, solve for x exactly. There may be more than one solution.

1.  $\frac{x-1}{2} = \frac{2}{7}$

x =

All reals

No solutions

2.  $x^2 - 6x = x(8 + x) + 5$

x =

All reals

No solutions

3.  $\frac{x^2}{5} - \frac{2x}{15} - \frac{1}{3} = 0$

x =

All reals

No solutions

4.  $2x(x + 6) = 2x^2 + 12x - 8$

x =

All reals

No solutions

5.  $2x^3 = 50x$

x =

All reals

No solutions

6.  $2(x + 1)^4(x + 2)^8 + 5(x + 1)^5(x + 2)^7 = 0$

x =

All reals

No solutions

7.  $2(x + 1)^6(x + 2)^8 + 5(x + 1)^5(x + 2)^9 = 0$

x =

All reals

No solutions

8.  $2x(x + 6) = 2(x^2 + 5x) + 2x$

x =

All reals

No solutions

9.  $(x + 2)(x - 4) = 7$

x =

All reals

No solutions

10.  $(x + 1)(x + 3) = 24$

x =

All reals

No solutions

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**Answers:**

1.  $11/7$
2.  $-5/14$
3.  $5/3, -1$
4. No solutions
5.  $0, \pm 5$
6.  $-1, -2, -9/7$
7.  $-1, -2, -12/7$
8. All reals
9.  $5, -3$
10.  $-7, 3$

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