

Solve Quadratic Equations by Factoring

Definitions	
The R_____ or Z_____ of a Quadratic Function are any values of x for which $f(x) = 0$.	The Z_____ P_____ P_____ says <i>If $a-b = 0$, then $a = 0$ or $b = 0$.</i>

Using the Zero Product Property	
Example 1: Find the solutions of $(x + 4)(x - 9) = 0$	Example 2: Find the solutions of $(x + 5)(x + 8) = 0$

Solving by Factoring	
Example 3: Solve $x^2 - x - 30 = 0$	
Steps: 1. Factor using X-Box	
2. Use the Zero Product Property	

You Try It! Solve each by factoring

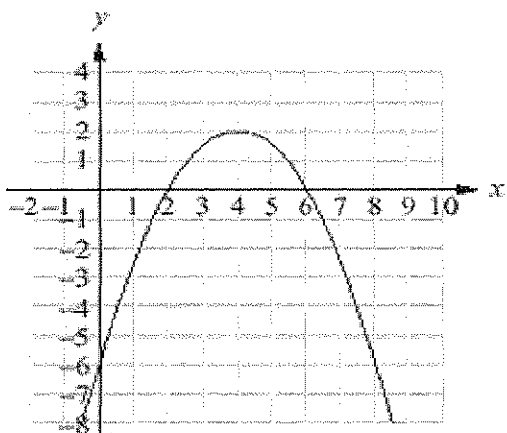
1.) $2x^2 + 8x - 10 = 0$

2.) $x^2 + 6x = 40$

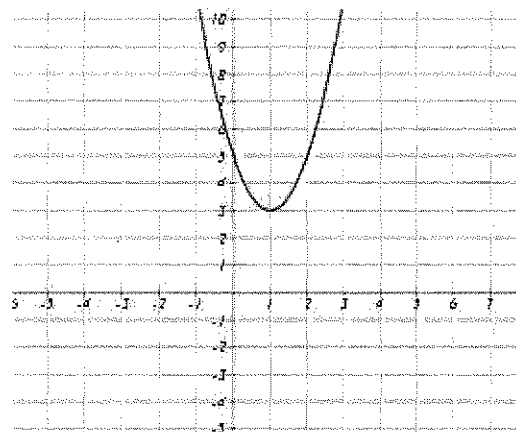
Solving Quadratics Equations Graphically

The solutions of a quadratic function are called _____, _____ or _____. They occur when the graph _____.

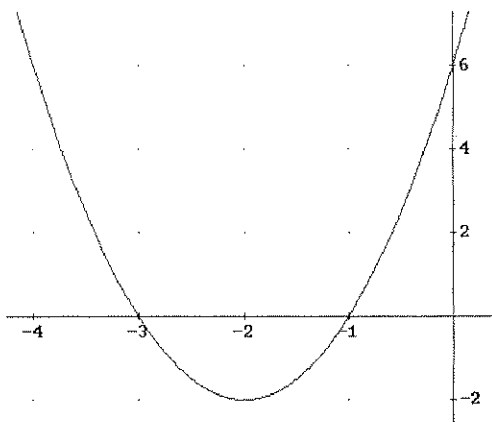
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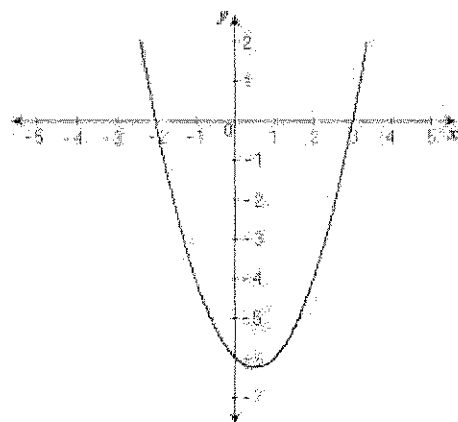
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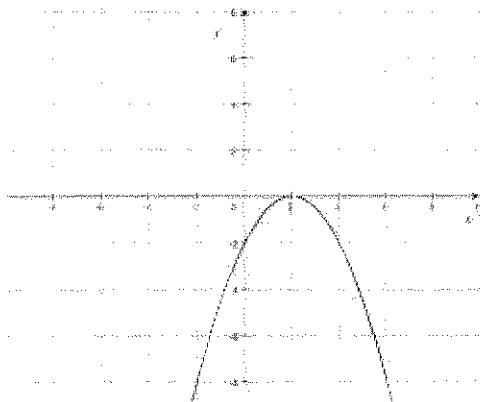
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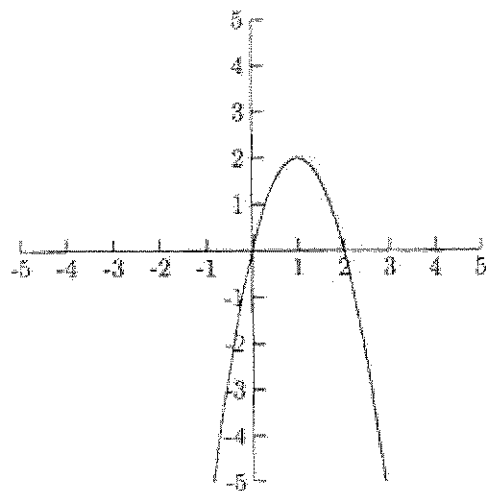
4.



5.



6.



Solve the following quadratics by factoring

1. $x(x-7) = 0$

2. $4b(b + 4) = 0$

3. $(2z + 1)^2 = 0$

4. $y^2 = 3y$

5. $c^2 - 9 = 0$

6. $h^2 + 14 = -9h$

7. $-f - 6 = -f^2$

8. $j^2 - 64 = 0$

9. $r^3 - 2r^2 - 15r = 0$

10. $z^2 - z = 30$

11. $4v^2 + 3v = 10$

12. $x^2 + 15x = -44$

13. $23x - 6 = -4x^2$

14. $t^2 = 5t$

15. $x^2 - 2x$ represents the area of a rectangle with length x . Find x if the area is 35.