

1.3 Factoring

NOTES

PRE-CALCULUS

Write your
questions here!



$$6v + 60$$

$$8x^2 + 48x$$

$$x^2 + 9x + 8$$

$$x^2 - 16$$

$$3x^2 - 75$$

$$6x^2 + 7x + 2$$

$$-6x^2 - 9x + 60$$

$$6x^2 - x - 2 = 0$$

$$8x^2 - 10x = -3$$

EQUATION

POLYNOMIAL

$$-2x^2 + 36x = 157$$

SUMMARY:

Now,
summarize
your notes
here!



Factor completely.

1. $m^2 + 6m - 27$

2. $h^2 - 25$

3. $6p^2 - 72p + 120$

4. $-x^2 + 3x + 40$

5. $12k^2 - 54k - 210$

6. $2n^2 - 7n - 4$

7. $4r^3 - 28r^2$

8. $f^2 + 6f + 9$

9. $2t^3 - 5t^2 - 3t$

Use factoring to solve.

10. $x^3 + 6x^2 = 16x$

11. $r^2 - 7r - 8 = 0$

12. $6t^2 - 13t - 12 = -7$

Use factoring to solve.

13. $-9v + 2 = v^2 + 20$

14. $2m^2 + m = 1$

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

Graph to solve the following. Round to the nearest thousandth.

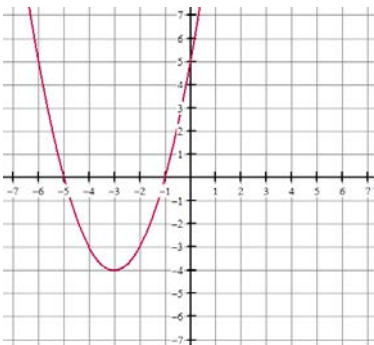
16. $x^2 + 6x = 9$

17. $x^2 - 10x - 140 = 0$

18. $-\frac{1}{5}x^2 + 740 = 3x$

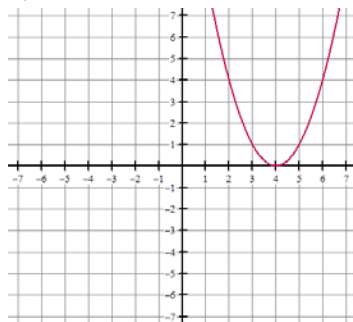
Review SkillzWrite the equation of the quadratic function in vertex form, $y = a(x - h)^2 + k$. See example for a refresher!

Example:

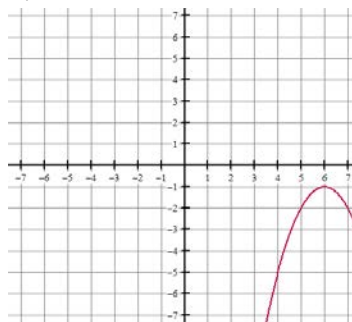


$$y = (x + 3)^2 - 4$$

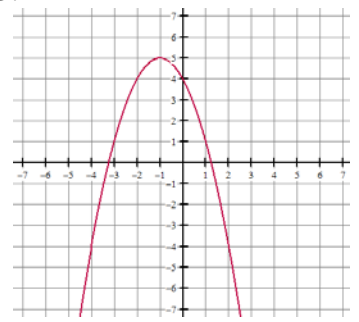
1.



2.



3.



Solve by factoring.	Solve by graphing.
1. $x^2 + 23x - 138 = 8x - 4x^2 + 2$	2. $f(x) = -2x^2 + 16x - 34$

VERBALLY – Write an equations or equations to represent the following. Then solve use factoring.

3. The product of two numbers is 640. Their difference is 12. Find these numbers.

4. One side of a rectangle is 3 feet shorter than twice the other side. Find the sides if the area is 209 ft^2 .

5. The length of the sides of a right triangle are measured as three consecutive even numbers. Find the values of these sides.

ALGEBRAICALLY

6. Chuck chucks a pair of Chucks upward from the top of a 1200 ft tall Chuck E Cheese. The height of the shoes, in ft, t seconds after he threw it is $h(t) = -16t^2 + 160t + 1200$.
- What does the $h(3)$ mean? Find it.
 - Use factoring to determine how long it takes for the shoes to hit the ground.



7. Write the equation of a quadratic function whose solutions are 3 and -2.
8. Determine the value of k so that the roots of the equation $x^2 - kx + 36 = 0$ are equal.

GRAPHICALLY

9. Use factoring to determine the zeros of $f(x) = x^3 - 2x^2 - 15x$. DO NOT GRAPH ON CALCULATOR!!!

- Now that you know the zeros of the function make a rough sketch of the graph WITHOUT your calculator given $f(-2) = 14$.

