

Int Math 3 Honors
First Day Review of IM2H

Name: _____
Period: _____

**Please make sure you can successfully complete the following problems in order to be successful in Module 1 of Int Math 3 Honors.

Solve the quadratics below by factoring.

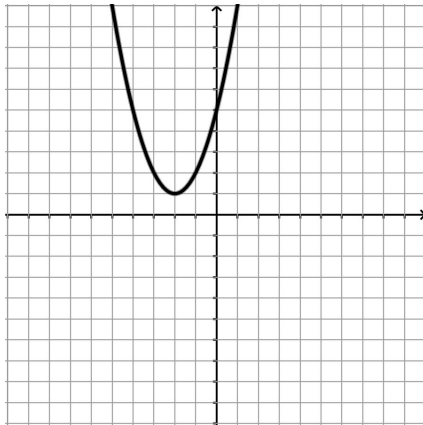
1. $x^3 + 5x^2 + 6x = 0$

2. $10x^2 - x + 9 = 0$

3. $49x^4 - 56x^3 + 16x^2 = 0$

4. Find the Standard, Factored, and Vertex form of the given quadratic.

x	y
-4	10
-3	5
-2	2
-1	1
0	2
1	5
2	10
3	17
4	26
5	37
6	50

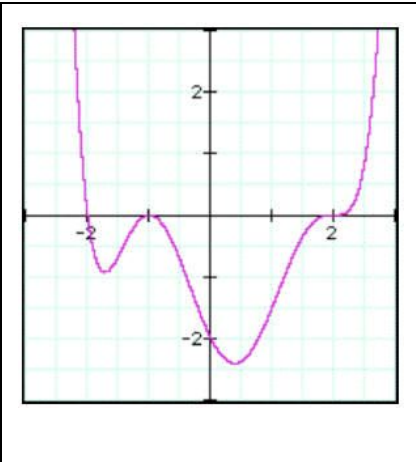
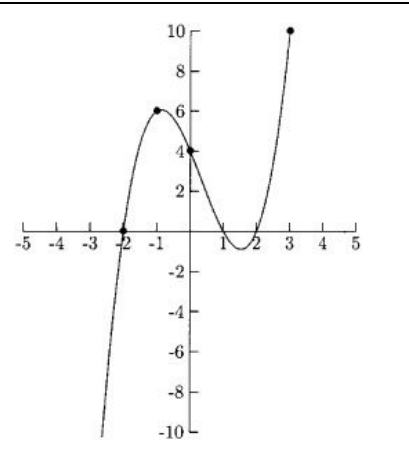
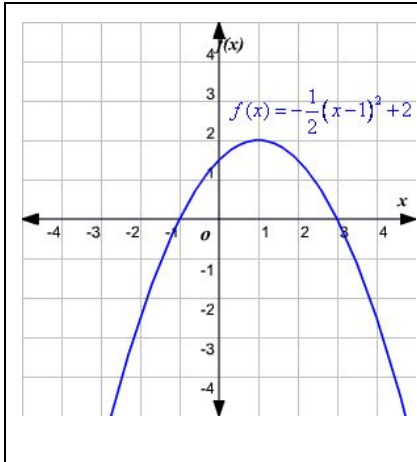


Standard
Form:

Factored
Form:

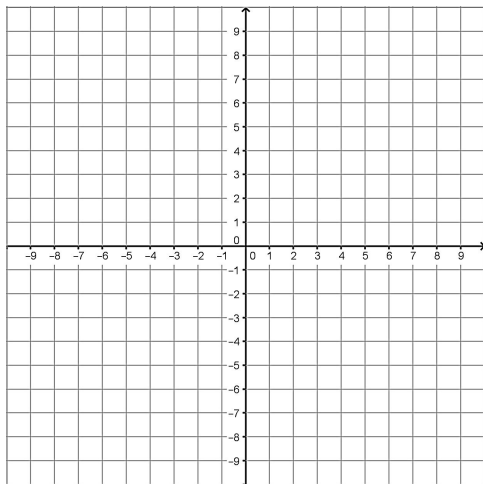
Vertex
Form:

5. Identify the zeros and factors of the following functions?



6. Graph the following function and list the features:

$$f(x) = 3x^2 - 21x + 28$$



Domain:

Range:

Increasing:

Decreasing:

Min/Max Value:

Intercepts:

Asymptote:

Roots/X-intercepts/Zeros:

7. Determine if the following points are a solutions in the function $h(x) = x(x - 1)(5x - 3)$?

a. (0, -3)	b. (1, 0)	c. (-2, 36)	d. (3, 72)
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8. Evaluate the following trig expressions. (Give an exact value, NO CALCULATORS)

- a. $\sin 30^\circ$
- b. $\sin 120^\circ$
- c. $\sin 90^\circ$
- d. $\cos 30^\circ$
- e. $\cos 225^\circ$

9. Factor the following expressions completely.

a. $x^3 - 8$

b. $27x^6 + 125$

c. $16 - x^4$

d. $x^4y^6 - 121$

e. $x^4 - 2x^2 - 8$

f. $9w^6 - 42w^3y + 49y^2$

10. Verify the trig identities

a. $\cos x + \sin x \cdot \tan x = \sec x$

b. $\frac{1}{\tan x} + \tan x = \frac{1}{\cos x * \sin x}$

11. Solve the following trig functions for x. (Give an exact value, NO CALCULATORS)

a. $\sin x = \frac{\sqrt{3}}{2}$

b. $\cos x = -\frac{1}{2}$

c. $\tan^2 x = 3$

12. Convert degrees to radians.

a. 210°

b. 60°

c. 300°

13. Convert radians to degrees.

a. $\frac{2\pi}{3}$

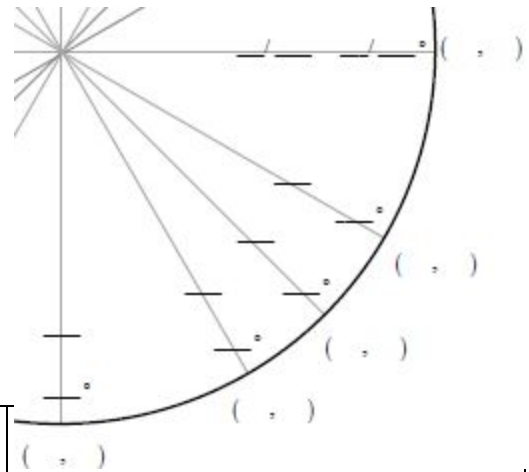
b. $\frac{5\pi}{6}$

c. $\frac{7\pi}{4}$

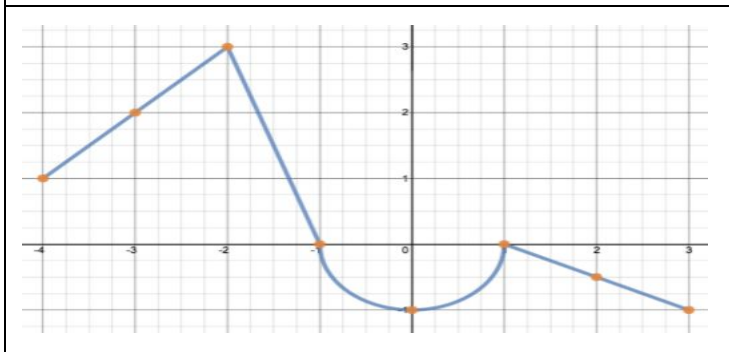
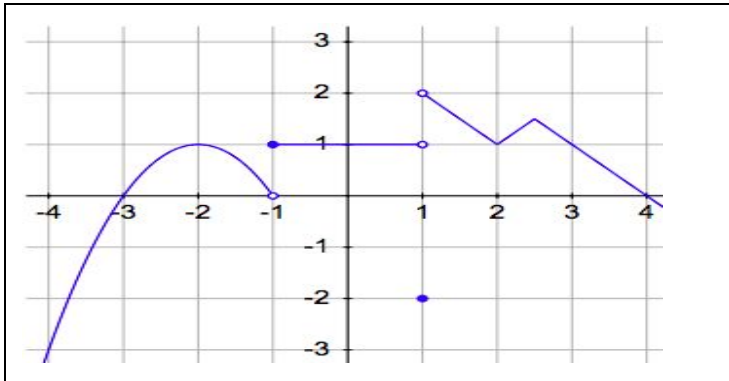
13. Two hikers are on opposite sides of a wooden plank bridge that spans a canyon. They are each 765 meters above the bottom of the canyon. They both sight the same landmark on the bottom of the canyon floor. The angles of depression from each hiker are 38 degrees and 24 degrees. How long is the wooden plank bridge?

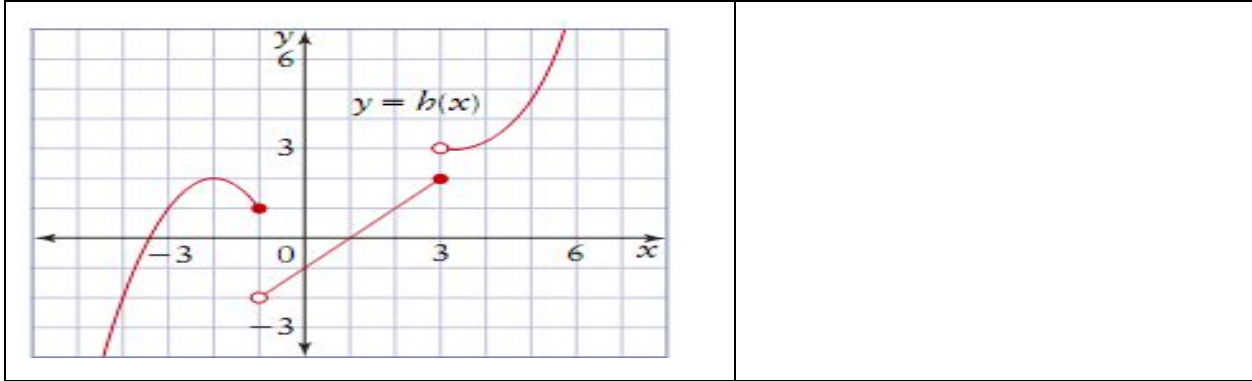


14. Complete the fourth quadrant of the unit circle.



15. State the domain, range, minimum and maximum values.





16. Write the explicit and recursive functions for the following tables.

x	f(x)	x	f(x)	x	f(x)
-1	16	-4	7	0	10
0	2	-1	1	1	17
1	-2	2	-5	2	26
2	4	3	-7	3	37
3	20	5	-11	4	50