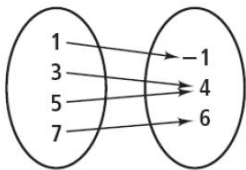
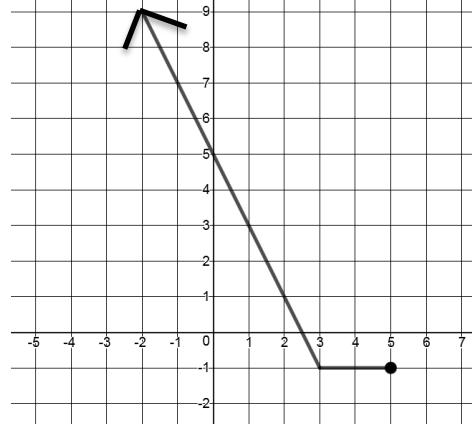
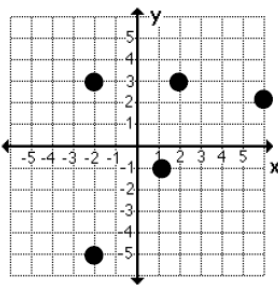


Algebra 2 Unit 4 HW 13

For questions 1-4:

- Determine if the relation is a function (circle yes or no)
- State the domain and range

<p>1.</p>  <p>YES or NO</p> <p>Domain: _____</p> <p>Range: _____</p>	<p>2. $\{(-8,7), (9,4), (-2,-10), (16,-1), (-13,4)\}$</p> <p>YES or NO</p> <p>Domain: _____</p> <p>Range: _____</p>
<p>3.</p>  <p>YES or NO</p> <p>Domain: _____</p> <p>Range: _____</p>	<p>4.</p>  <p>YES or NO</p> <p>Domain: _____</p> <p>Range: _____</p>

Use the following equations to answer questions 5-7.

$$f(x) = \sqrt{x-4} + 7$$

$$g(x) = x^2 - 14x + 53$$

$$h(x) = -2x - 9$$

$$j(x) = x^2 + 8$$

5. Find $f^{-1}(x)$

6. Find $g(h(-3))$

7. Find $h(j(x))$

For questions 8-10: write an equation based on the given information.

8.
 Absolute Value
 Vertical Dilation (VD): 5
 Vertical Translation (VT): 26
 Horizontal Translation (HT): -7

Equation:

9.
 Radical
 Reflection
 Horizontal Translation (HT): -10
 Vertical Dilation (VD): $\frac{4}{7}$
 Vertical Translation (VT): 34

Equation:

10.
 Sine
 Period: 4π
 Horizontal Translation (HT): $\frac{\pi}{2}$
 Amplitude: 6
 Vertical Translation (VT): 9

Equation:

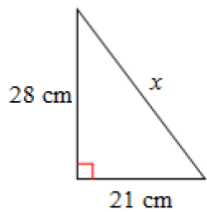
Graph.

11. $y = -5 \sin 4(\theta + 30^\circ) + 7$

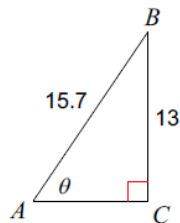
12. $y = \cos 2(x - \frac{\pi}{4}) - 3$

Solve for the missing side or missing angle. Round sides to the tenths place. Round angles to the whole degree.

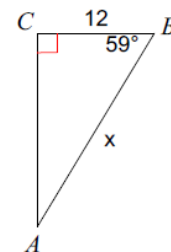
13.



14.



15.



Solve. Find all solutions of each equation within the interval: $0^\circ \leq \theta \leq 360^\circ$

16. $2\tan^2\theta - 6 = 0$

17. $2\sin^2\theta - \sin\theta - 3 = 0$

Verify.

18. $\frac{1+\tan^2\theta}{\cot^2\theta+1} = \tan^2\theta$

19. $\csc^2\theta(\sec^2\theta - 1) = \frac{1}{\cos^2\theta}$

20. Find the mean, median, mode, and standard deviation of the following data points, then draw a box plot.

30, 25, 81, 66, 63, 50, 12, 33, 57, 20, 27, 20, 93, 42, 73

Mean: _____

Median: _____

Mode: _____

Standard Deviation: _____