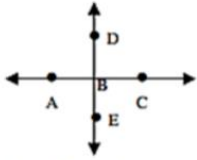
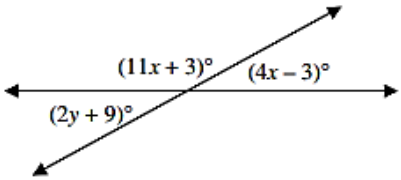
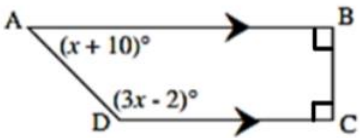
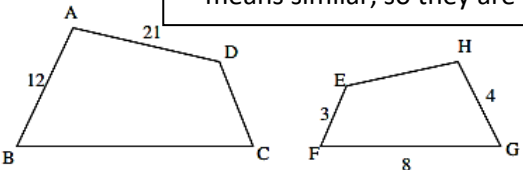
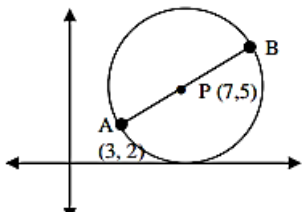


**Honors 1: Geometry Semester Practice Test** *You will need to use a separate piece of paper to do the work.*

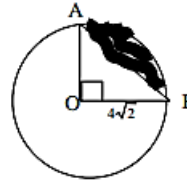
1.	<p>In the figure, <math>AC = 24</math>, <math>AB = 6x - 6</math>, <math>BC = 5x - 3</math> and <math>BE = 3x + 2</math>. Which do you know is true?</p> <p>I. <math>\overline{AC}</math> bisects <math>\overline{DE}</math>.                      II. <math>\overline{DE}</math> bisects <math>\overline{AC}</math>.                      III. <math>DB = 11</math></p> <p>a) I only    b) II only    c) III only    d) I and II only    e) II and III only</p>	
2.	<p>Find the values of <math>x</math> and <math>y</math>.</p> <p>a) <math>x = 20, y = 34</math>    b) <math>x = 10, y = 52</math>                      c) <math>x = 12, y = 18</math>    d) <math>x = 11, y = 7</math></p>	
3.	<p>Find <math>m\angle ADC</math>.</p> <p>a) 53    b) 43    c) 137    d) 127</p>	
4.	<p>Quad. <math>ABCD \sim</math> Quad. <math>HGFE</math>. Find the perimeter of <math>ABCD</math>.</p> <p>a) 88    b) 22    c) 66    d) 31</p>	<p><math>\sim</math> means similar, so they are in proportion</p> 
5.	<p>A ladder 6 m long just reaches the top of a building and its foot makes a <math>76^\circ</math> angle with the ground. Which of the following equations could be used to calculate the height, <math>h</math>, of the building?</p> <p>I. <math>\sin 76^\circ = \frac{h}{6}</math>    II. <math>6 \cdot \cos 14^\circ = h</math>    III. <math>\cos 76^\circ = \frac{h}{6}</math></p> <p>a) I only    b) II only    c) III only    d) I and II only    e) I, II and III</p>	
6.	<p>A rectangular garden has dimensions 30 feet by 20 feet. What is the area of the 2 foot wide walkway around the garden?</p> <p>a) <math>104 \text{ ft}^2</math>    b) <math>216 \text{ ft}^2</math>    c) <math>680 \text{ ft}^2</math>    d) <math>704 \text{ ft}^2</math>    e) <math>1416 \text{ ft}^2</math></p>	
7.	<p>In two hours, the minute hand of a clock rotates through an angle equal to which of the following?</p> <p>a) 90    b) 180    c) 360    d) 720    e) 1080</p>	
8.	<p><math>\overline{AB}</math> is the diameter of a circle whose center is at <math>P</math>. What are the coordinates of <math>B</math>?</p> <p>a) (10, 7)    b) (5, 2.5)    c) (12, 7)    d) (11, 8)    e) (11, 7)</p>	

9. In  $\triangle ABC$ ,  $m\angle A = 23$  and  $m\angle B = 84$ . What is the longest side of  $\triangle ABC$ ?

- a)  $\overline{AC}$       b)  $\overline{AB}$       c)  $\overline{BC}$       d)  $\overline{AC} \cong \overline{AB}$  (there is no longest side)

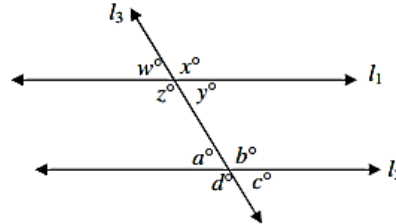
10. Given that  $m\angle OAB = 45^\circ$ . What is the area of the shaded portion of the circle?

- a)  $32\pi - 16\sqrt{2}$       b)  $4\pi - 8$       c)  $32\pi - 8$   
 d)  $8\pi - 16$       e)  $8\pi - 8$



11. In the figure below,  $l_1$  is parallel to  $l_2$ . Which of the following must be true?

- I.  $w = a$   
 II.  $y + b = 180^\circ$   
 III.  $x + d = 180^\circ$



- a) I only      b) II only      c) I and II only  
 d) II and III only      e) I, II and III

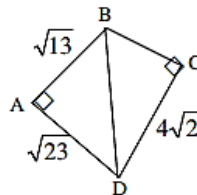
12. If the area of a circle is  $9\pi$ , which of the following is(are) true?

- I. The radius is 3.  
 II. The diameter is 6.  
 III. The circumference is  $6\pi$ .

- a) I only      b) II only      c) III only      d) I and II only      e) I, II and III

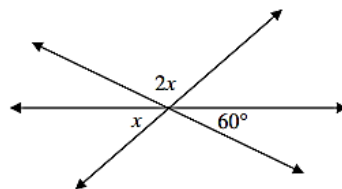
13. Use the figure to find the length of BC.

- a) 1      b) 2      c) 3  
 d) 4      e) 5



14. What is  $2x - 60$  equal to?

- a) 80      b) 40      c) 30  
 d) 20      e) 10

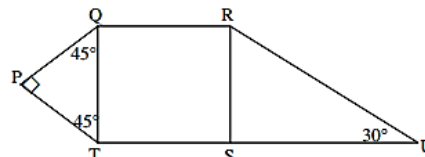


15. If point R has coordinates  $(x, y)$  and point S has coordinates  $(x + 1, y + 1)$ , what is the distance between R and S?

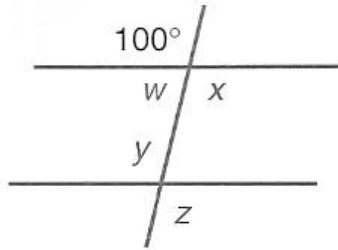
- a)  $\sqrt{2}$       b)  $\sqrt{x^2 + y^2}$       c) 2      d)  $\sqrt{x^2 + y^2 + 2}$       e)  $x + y + 1$

16. In the figure, if QRST is a square and  $PQ = \sqrt{2}$ , what is the length of RU?

- a)  $\sqrt{2}$       b)  $\sqrt{6}$       c)  $2\sqrt{2}$   
 d) 4      e)  $4\sqrt{3}$



1. In the figure below, two parallel lines are intersected by a third line. Find the value of  $2x - 2y + w + z$



1. \_\_\_\_\_

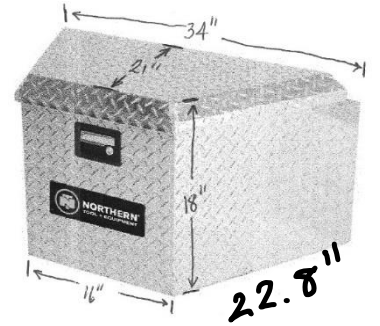
2. Two tanks must have a total capacity of 480 gallons. If one tank needs to be twice the size of the other, how many gallons should the smaller tank hold?

2. \_\_\_\_\_

3. A farmer has 875 sq ft of topsoil he will turn into a garden. He wants to minimize the cost of the fencing he will need to put around the garden. He is trying to decide between a circular garden and a square garden. Which should he choose and WHY?

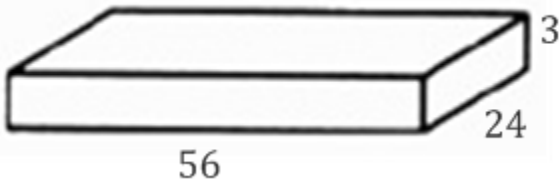
**2 more questions on the back**

4. A diamond plate trailer tongue tool box found in a catalog is in the shape of a trapezoidal prism (see photo). The dimensions are shown in the figure. Determine the number of square inches of sheet metal (total surface area) for this box. Ignore the taper of the lid. Round to the nearest square inch.



4. \_\_\_\_\_

5. A concrete foundation is to be poured for a home. A hole 3 feet deep, 24 feet wide, and 56 feet long is excavated for the foundation (a rectangular prism). Determine the number of **cubic yards** (how many cubic feet per cubic yard? It's **not** 3!) of concrete that must be ordered for the pour.



5. \_\_\_\_\_