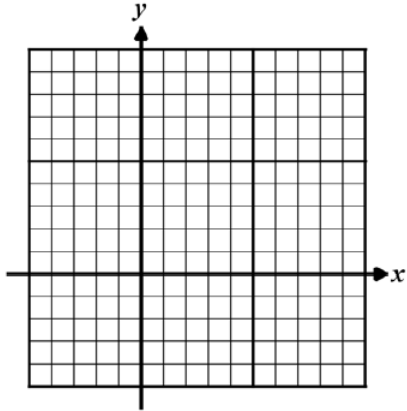


Name: _____
 Date: _____
 Class: _____

Geometry
 Review
 FR1

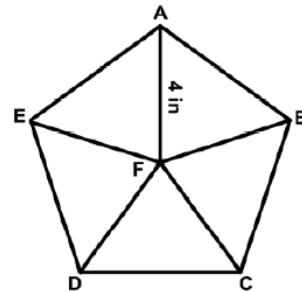
1)

Parallelogram $ABCD$ has vertices at $A(1, 4)$, $B(9, 4)$, $C(4, -3)$ and $D(-4, -3)$. Determine the measure of one of its larger angles to the nearest degree.



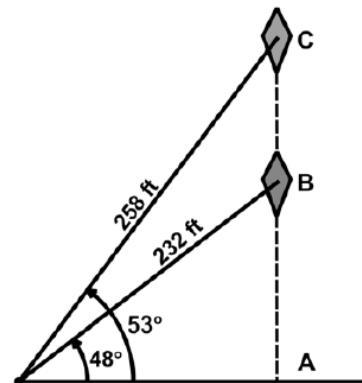
2)

Regular pentagon $ABCDE$ is shown below with point F at its center. In other words, point F is located such that $AF = BF = CF = DF = EF$. If $AF = 4$ inches as shown, then determine if the pentagon's perimeter is more or less than 2 feet.



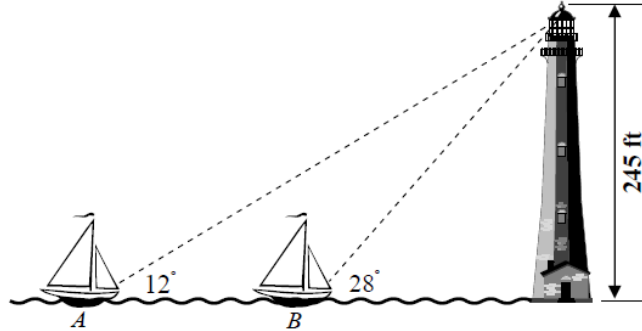
3)

A person flying a kite originally lets out 232 feet of line. At this point the person observes an angle of elevation to the kite of 48° . The person then lets out additional line for a total of 258 feet. At this point the person observes an angle of elevation of 53° . If the kite rises vertically between the two points in time as shown, determine, to the nearest foot, how much higher the kite is at point C than at point B .



4)

A boat is trying to determine its speed, in feet per second. The boat spots a 245 foot tall lighthouse at point A at an angle of elevation of 12° . Five minutes later it arrives at point B after traveling in a straight line towards the light house. The angle of elevation is now 28° . What is the boat's speed to the nearest foot per minute.



5) $5x^2 - 70x + 5y^2 - 20y + 260 = 0$ What is the circumference of this circle to the nearest tenth?

6)

Which of the following would be the maximum y -value on the circle whose equation is shown below?

(1) $y = 5$ $x^2 + 10x + y^2 - 4y = 71$

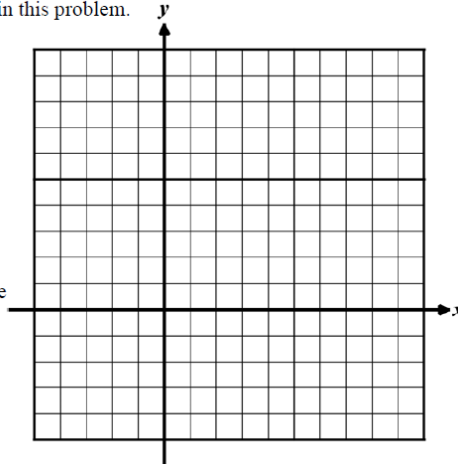
(2) $y = 2$

(3) $y = 12$

(4) $y = 22$

7) Consider the circle whose equation is $(x-6)^2 + (y+3)^2 = 80$ and the point $A(2, 5)$. Use of the grid is optional, but helpful to visualize what is happening in this problem.

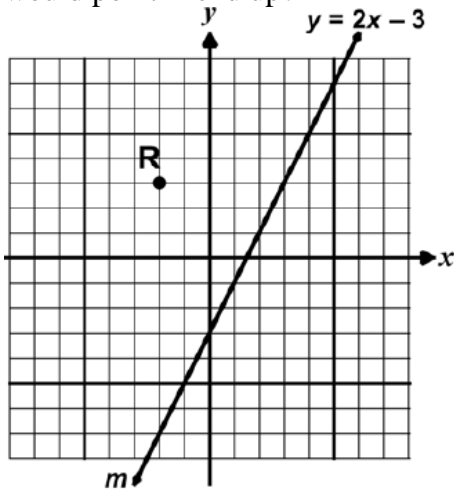
(a) Show that A must lie on this circle.



(b) Find the slope of the line segment that connects the center of the circle to point A .

(c) Find the equation of the line perpendicular to the circle at point A

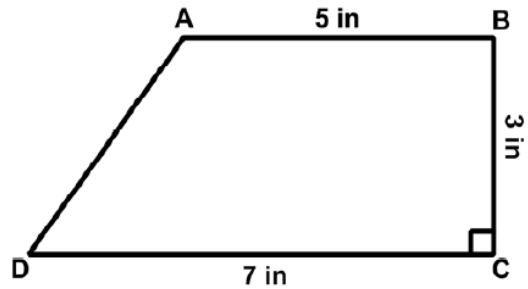
8) Using the picture below, what slope would you use to reflect point R over the line. How would you determine where point R would be located using this slope? Where would point R end up?



9)

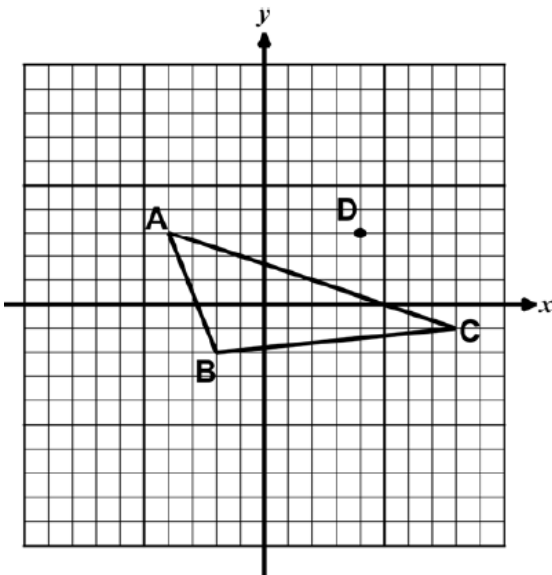
In trapezoid $ABCD$ shown below, $\overline{AB} \parallel \overline{DC}$, $\overline{BC} \perp \overline{DC}$ and sides have lengths as shown.

(a) Determine the measure of $\angle D$ to the nearest degree.

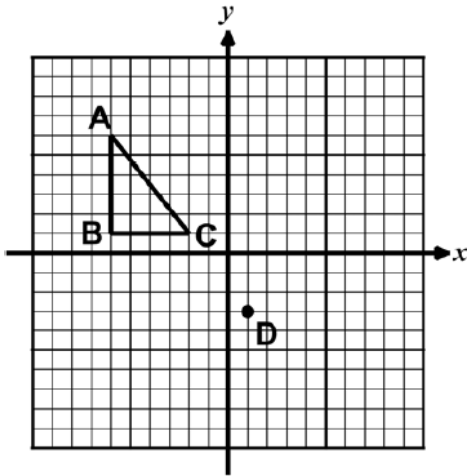


(b) Find the length of \overline{AD} in simplest radical form.

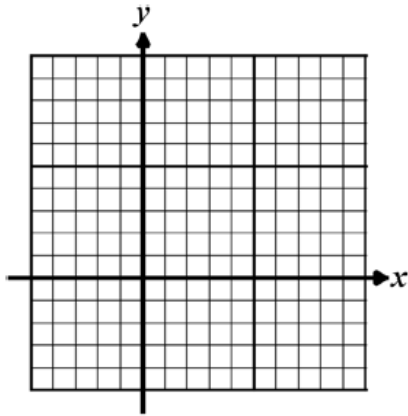
10) Rotate point C clockwise 90° about point D



11) Using the following picture, sketch the image of triangle ABC after a r_D

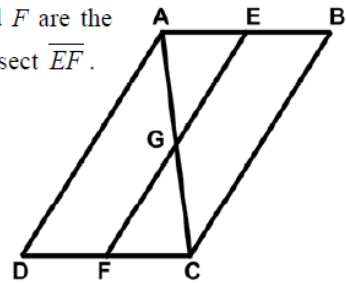


12) Using triangle ABC with A(1, 4), B(5, -2) and C(2, -5), perform a dilation with scale factor of $\frac{1}{2}$ centered at (6, 8).

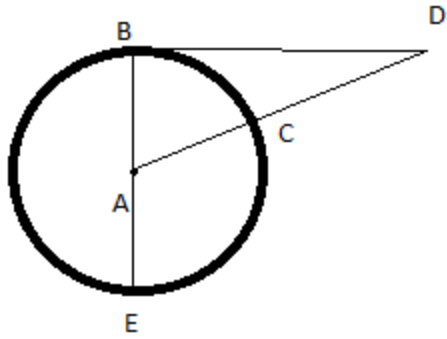


13)

Given that $ABCD$ is a parallelogram with diagonal \overline{AC} drawn. If E and F are the midpoints of sides \overline{AB} and \overline{DC} , respectively, then prove that \overline{AC} must bisect \overline{EF} .



14)



In circle A, segment BD is a tangent. $BE = 16$, $DB = 22$. Find the length of arc BC to the nearest hundredth.

15) Using the circle below, construct a triangle using 3 tangents to the circle.

