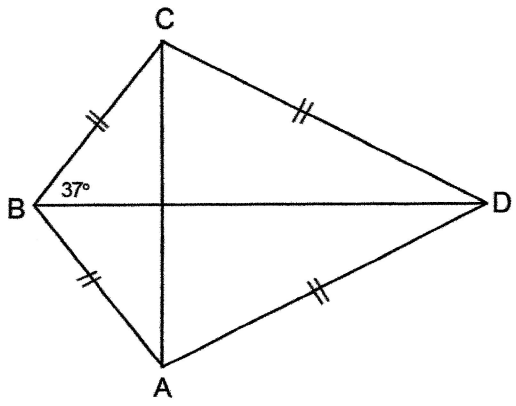
Bellwork Geo Friday, April 17, 2020

Find the area of each figure to the nearest hundredth.

1. In Kite ABCD $AC = 22$ and $DC = 61$



2. A regular Nonagon (9-sides) with a radius 10 units long.

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ANSWERS

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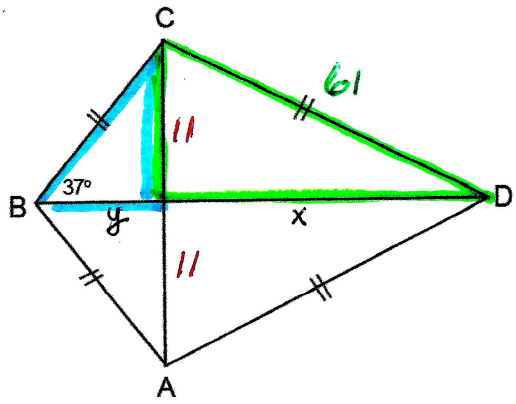


$A = \frac{1}{2} d_1 \cdot d_2$

$= \frac{1}{2}(AC)(BD)$

$= \frac{1}{2}(22)(BD)$

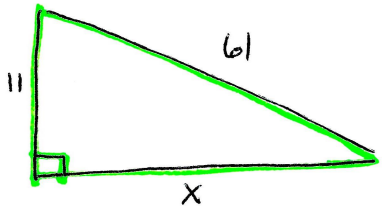
$BD = x + y$

$BD = (60)(14.60)$

$= 74.60$

$A = \frac{1}{2}(22)(74.60)$

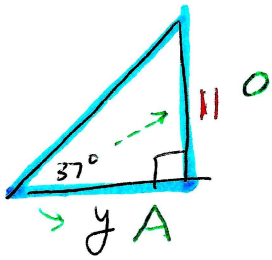
$= 820.60$



$x^2 + 11^2 = 61^2$

$x^2 = 61^2 - 11^2$

$x = \sqrt{61^2 - 11^2} = 60$

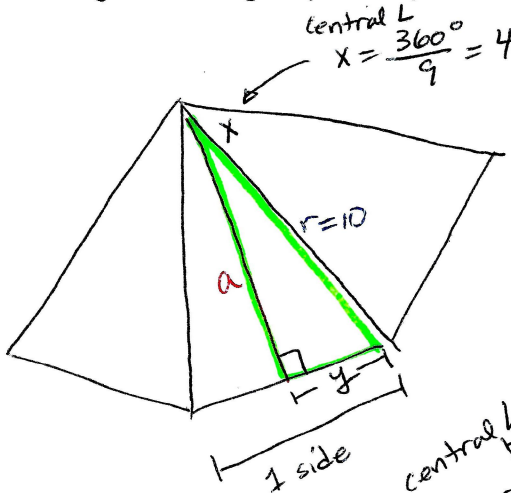


SOHCAHTOA

$\tan 37° = \frac{11}{y}$

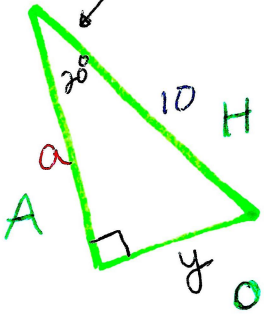
$y = 14.60$

2. A regular Nonagon (9-sides) with a radius 10 units long.



central ∠ is bisected by the apothem.

$\frac{1}{2}(40) = 20°$



For y SOHCAHTOA $\sin 20° = \frac{y}{10}$

$y = 3.42$

1 side $= 2y = 6.84$

perimeter $= 9(6.84)$

$P = 61.56$

For a SOHCAHTOA

$\cos 20° = \frac{a}{10}$

$a = 9.40$

$A = \frac{1}{2} a \cdot P$

$= \frac{1}{2}(9.40)(61.56)$

$A = 289.33$