Geometry 13.3

Find probabilities by using length

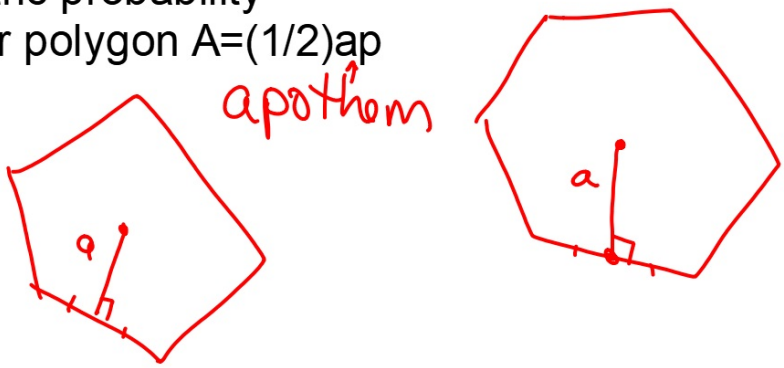
Find probabilities by using area*

*It is assumed that you know how to find the area of circles, triangles, etc. (Middle school standard)

probability

geometric probability

Regular polygon A=(1/2)ap

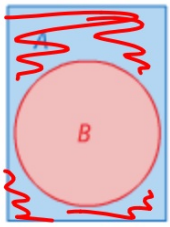


$$\frac{\text{Area of "target"}}{\text{Total area}}$$

KeyConcept Area Probability Ratio

Words If a region A contains a region B and a point E in region A is chosen at random, then the probability that point E is in region B is $\frac{\text{area of region } B}{\text{area of region } A}$.

$\frac{B}{\text{rect.}}$



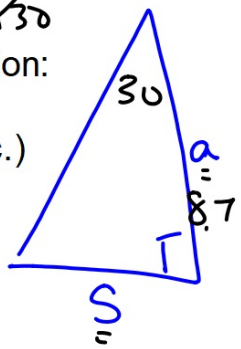
What percentage (of the whole thing) is shaded?
target/total

SohCahtoa

$\tan 30 = \frac{5}{a}$ $\quad 5 = \frac{a \tan 30}{\tan 30}$

$\frac{360}{6}$

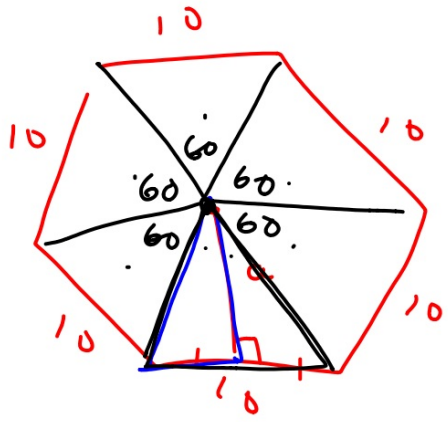
Possibly useful information:
Area regular polygon
(pentagon, hexagon, etc.)



A=1/2 a p

$= \frac{1}{2}(8.7)(60)$

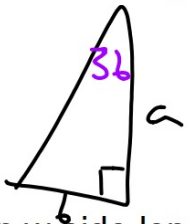
$= 261$

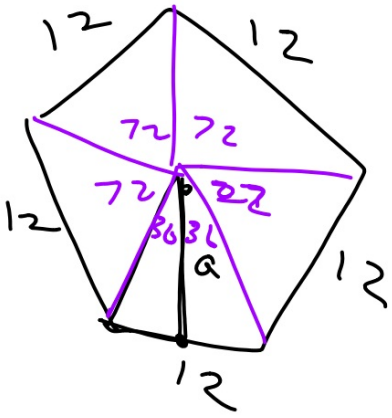


Regular hexagon w side length 10

$\tan 36 = \frac{6}{a}$

$\frac{6}{\tan 36} = \frac{a \cdot \tan 36}{\tan 36}$





Regular pentagon w side length 12

$A = \frac{1}{2}(8.3)(60)$

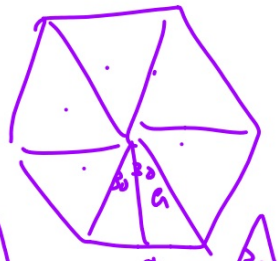
$= 249$

p. 934 $\frac{72}{165.6} = 43\%$

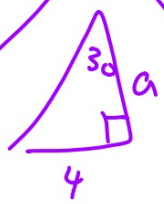
(14)

Big hex - 4(small hex)

$165.6 - 4(23.4)$

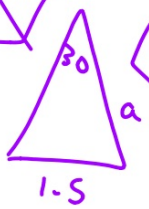


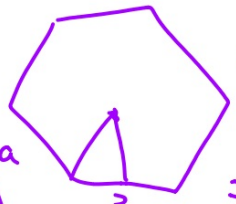
$\frac{1}{2}(6.9)(48)$



$\tan 30 = \frac{4}{a}$

$4 = a\tan 30$





$\frac{1}{2}(2.6)(18)$

$\tan 30 = \frac{1.5}{a}$

$a\tan 30 = 1.5$

ICE (In class examples)

~~SGR p. 17 WC~~, SGR p. 18 WS
due by end of class today

13.3 p. 7-25o 29-31 due Tues.