16.4 PRACTICE

Find the area of each. Label you answer!

1.
Nonagon
Apothem = 14 cm
Side = 8 cm

$P = ln$
$P = 8(9)$
$P = 72$

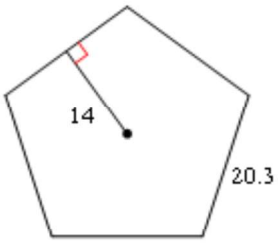
$A = \frac{1}{2}Pa$
$= \frac{1}{2}(72)(14)$
$A = 504\ cm^2$

2.
Dodecagon
Apothem = 8.5 in
Side = 12.2 in

$P = ln$
$P = (12.2)(12)$
$P = 146.4$

$A = \frac{1}{2}Pa$
$= \frac{1}{2}(146.4)(8.5)$
$A = 622.2\ in^2$

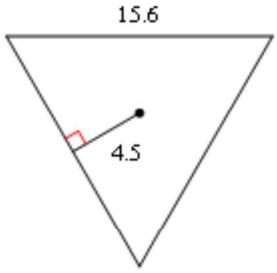
3.



$P = ln$
$P = (20.3)(5)$
$P = 101.5$

$A = \frac{1}{2}Pa$
$= \frac{1}{2}(101.5)(14)$
$A = 710.5\ un^2$

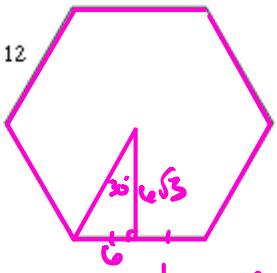
4.



$P = ln$
$P = (15.6)3$
$P = 46.8$

$A = \frac{1}{2}Pa$
$= \frac{1}{2}(46.8)(4.5)$
$A = 105.3\ un^2$

5.

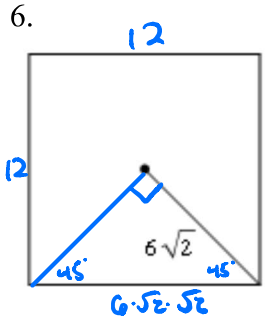


$P = ln$
$P = 12(6)$
$P = 72$

$mLC = \frac{360}{n}$
$= \frac{360}{6}$
$mLC = 60$

$A = \frac{1}{2}Pa$
$A = \frac{1}{2}(72)(6\sqrt{3})$
$A = 36(6\sqrt{3})$
$A = 216\sqrt{3}\ un^2$

6.

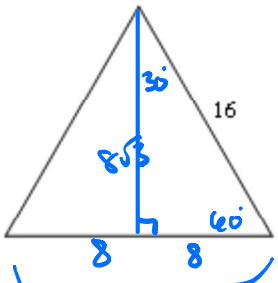


$6 \cdot \sqrt{2} \cdot \sqrt{2}$
$= 6 \cdot 2$
$= 12$

$mLC = \frac{360°}{n}$
$= \frac{360°}{4}$
$mLC = 90°$

$A = bh$
$A = (12)(12)$
$A = 144\ un^2$

7.



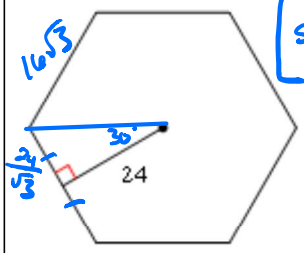
16

$A = \frac{1}{2}bh$
$= \frac{1}{2}(16)(8\sqrt{3})$
$A = 64\sqrt{3}\ un^2$

8.

30-60-90

Short leg $= \frac{LL}{\sqrt{3}} = \frac{24}{\sqrt{3}} = \frac{24\sqrt{3}}{3} = 8\sqrt{3}$



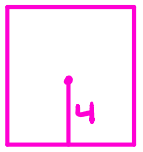
$P = ln$
$= (16\sqrt{3})6$
$P = 96\sqrt{3}$

$mLC = \frac{360°}{n}$
$= \frac{360}{6}$
$mLC = 60°$

$A = \frac{1}{2}Pa$
$A = \frac{1}{2}(96\sqrt{3})(24)$
$A = 12 \cdot 96\sqrt{3}$
$A = 1152\sqrt{3}$

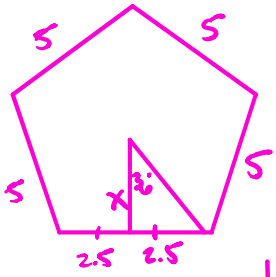
Draw the following. Find the area. Label your answer!

9. A square with apothem of 4 in and perimeter of 32 in.



$A = bh$
$A = 8(8)$
$A = 64\ in^2$

10. A regular pentagon with each side of 5 cm.



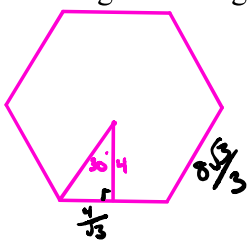
$P = ln$
$P = 5(5)$
$P = 25$

$m\angle C = \frac{360}{n}$
$= \frac{360}{5}$
$m\angle C = 72°$

$\tan 36° = \frac{2.5}{x}$
$x \tan 36° = 2.5$
$x = \frac{2.5}{\tan 36°}$
$x \approx 3.44$

$A = \frac{1}{2}Pa$
$= \frac{1}{2}(25)(3.44)$
$A \approx 43\ cm^2$

11. A regular hexagon with an apothem of 4 feet.



30-60-90
$SL = \frac{LL}{\sqrt{3}} = \frac{4}{\sqrt{3}} = \frac{4\sqrt{3}}{3}$

$m\angle C = \frac{360}{n}$
$= \frac{360}{6}$
$m\angle C = 60°$

$P = ln$
$P = \left(\frac{8\sqrt{3}}{3}\right)6$
$P = 16\sqrt{3}$

$A = \frac{1}{2}Pa$
$= \frac{1}{2}(16\sqrt{3})(4)$
$A = 32\sqrt{3}\ ft^2$

12. A square with radius 10 m.

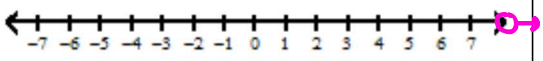
$m\angle C = \frac{360°}{n}$
$= \frac{360°}{4}$
$m\angle C = 90°$

$A = bh$
$A = (10\sqrt{2})(10\sqrt{2})$
$A = 100 \cdot 2$
$A = 200\ m^2$

ALGEBRA REVIEW

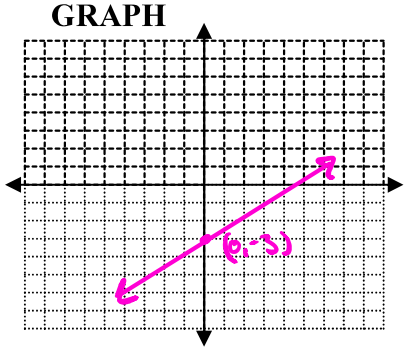
SOLVE
$5 - 2(3 - 2x) < 35$

$-2(3-2x) < 30$
$3 - 2x > -15$
$-2x > -18$
$x > 9$



GRAPH
$3y = 2x - 9$

$y = \frac{2}{3}x - 3$

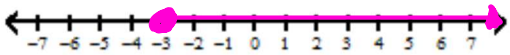


MULTIPLY
$(2x - 5)(3x + 4)$

$= 6x^2 - 15x + 8x - 20$
$= 6x^2 - 7x - 20$

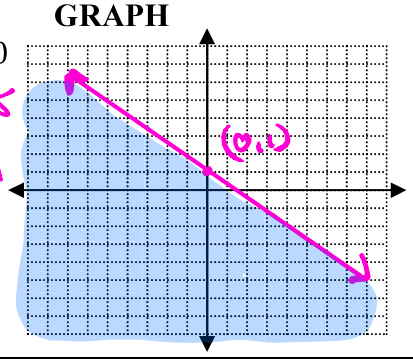
SOLVE
$-4x - 5 \geq -11 - 6x$

$2x - 5 \geq -11$
$2x \geq -6$
$x \geq -3$



GRAPH
$4x + 5y \leq 10$

$5y \leq -4x + 5$
$y \leq -\frac{4}{5}x + 1$



FACTOR
$2x^2 - x - 3$

$= \frac{(2x-3)(2x+2)}{2}$
$= \frac{(2x-3)\cancel{2}(x+1)}{\cancel{2}}$
$= (2x-3)(x+1)$