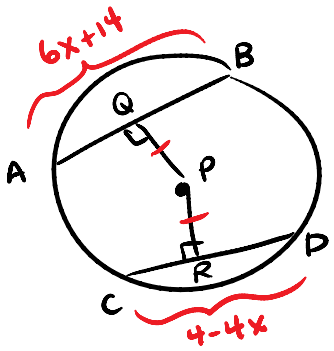
Section 10.2
p. 447: 2, 6, 11-13, 15

#2



$6x+14 = 4-4x$

$10x = -10$

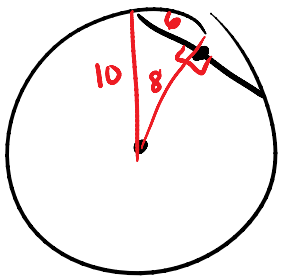
$x = -1$

$AB = 6(-1)+14$

$= -6+14$

$= \boxed{8}$

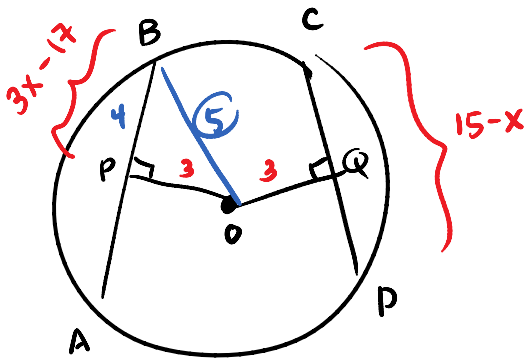
#6



a. 8 cm

b Circle

#11



a. Find AB

$2(3x-17) = 15-x$

$6x-34 = 15-x$

$7x = 49$

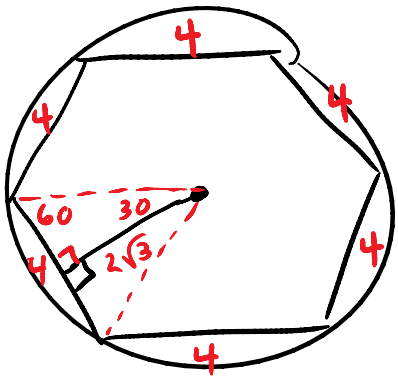
$x = 7$

$AB = 4(2) = \boxed{8}$

b. Find radius $\boxed{5}$

#12 A regular hexagon with a perimeter of 24 is inscribed in a circle. How far from the center is each side?

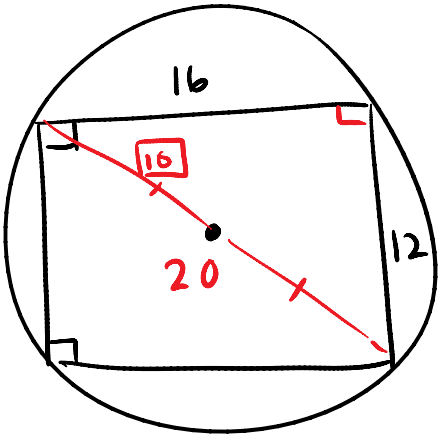
$\boxed{2\sqrt{3}}$



ext $\measuredangle = \frac{360}{6} = 60$

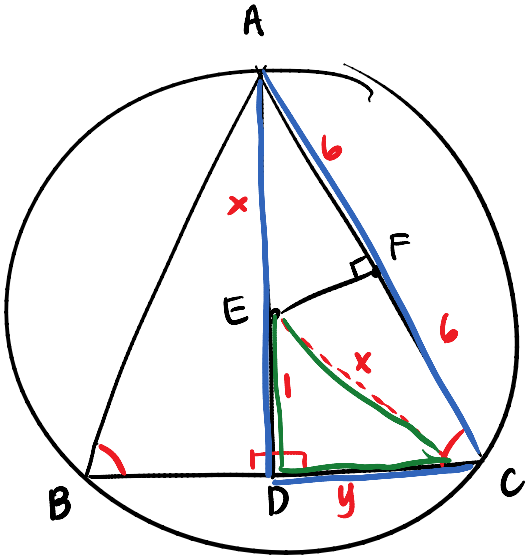
int $\measuredangle = 120$

#13



$(3,4,5) \times 4$

#15



a. Find radius

$* \; 1^2 + y^2 = x^2$

$\boxed{y^2 = x^2 - 1}$

$* \; (x+1)^2 + y^2 = 12^2$

$x^2 + 2x + 1 + y^2 = 144$

$x^2 + 2x + \cancel{1} + x^2 - \cancel{1} = 144$

$2x^2 + 2x = 144$

$2x^2 + 2x - 144 = 0$

$2(x^2 + x - 72) = 0$

$2(x+9)(x-8) = 0$

$x = -9 \quad x = 8$

$\boxed{\text{radius} = 8}$

$\frac{6}{x+1} = \frac{x}{12}$

$x^2 + x = 72$

$x^2 + x - 72 = 0$

$(x+9)(x-8) = 0$

$x = -9, \boxed{8}$

$1^2 + y^2 = 8^2$

$1 + y^2 = 64$

$y^2 = 63$

$y = 3\sqrt{7}$

b. find perimeter of ΔABC

$12 + 12 + 3\sqrt{7} + 3\sqrt{7}$

$\boxed{24 + 6\sqrt{7}}$