10.3

p. 454: 1-4, 9-13, 18, 19, 24

#1

a. 6

b. 2

c. 5

d. 4

e. 3

f. 7

g. 1

#2

a. $\overset{\frown}{QRP}$

b $\overset{\frown}{BC}$ or $\overset{\frown}{AB}$

c 180°

d. $m\overset{\frown}{PQ}$

e. No

#3

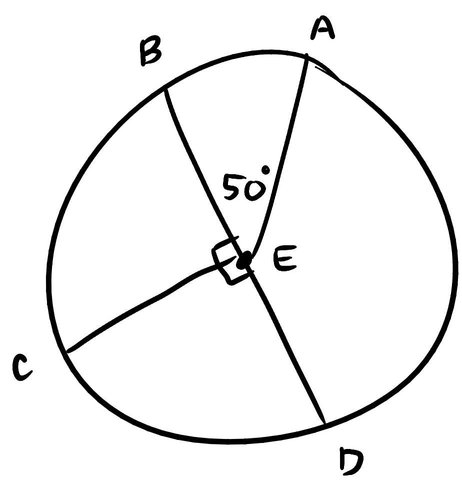
a. $m\overset{\frown}{BC}$ 90°

b. $m\overset{\frown}{AD}$ 130°

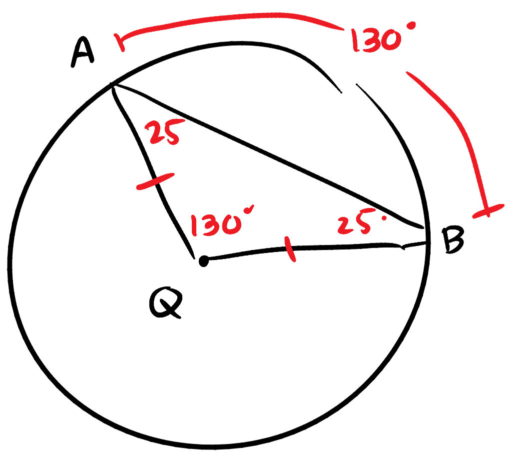
c. $m\overset{\frown}{ACD}$ 230°

d. $m\overset{\frown}{BAD}$ 180°

e. $m\overset{\frown}{ADC}$ 220°



#4



#9 a. $8°$ $1/45$

b. $240°$ $2/3$

c. $144°$ $2/5$

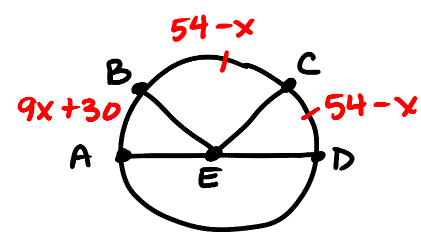
d. $315°$ $7/8$

#10 a. $3/5$ $216°$

b. $5/9$ $200°$

c. 70% $252°$

11) Given: AD is a diameter of circle E
C is midpt of $\overset{\frown}{BD}$
$m\overset{\frown}{AB} = 9x+30$
$m\overset{\frown}{CD} = 54-x$

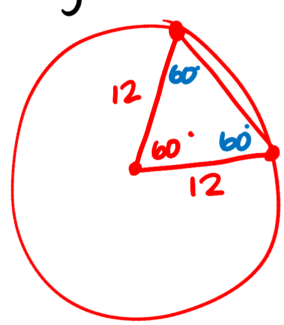


Find: $m\angle AEC$

$9x+30+54-x+54-x$
$7x+138=180$
$7x=42$
$\boxed{x=6}$

$m\angle AEC = 9x+30+54-x$
$= 8x+84$
$= 8(6)+84$
$= 48+84$
$\boxed{m\angle AEC = 132°}$

12) Find the length of the chord that cuts off an arc measuring 60 in a circle with a radius of 12.



$\boxed{\text{Chord} = 12}$

#13

Find the length of each arc described. (The length is a fractional part of the circumference)

a. An arc that is 5/8 of the circumference of a circle with radius 12

$C = \pi d$

$C = 24\pi$

$\frac{5}{8} \cdot 24\pi = \boxed{15\pi}$

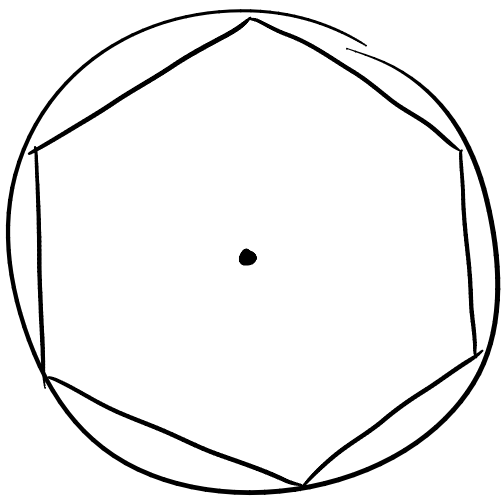
b. An arc that has a measure of 270 and is part of a circle with radius 12

$\frac{270}{360} = \frac{3}{4}$

$C = 24\pi$

$\frac{3}{4} \cdot 24\pi = \boxed{18\pi}$

#18



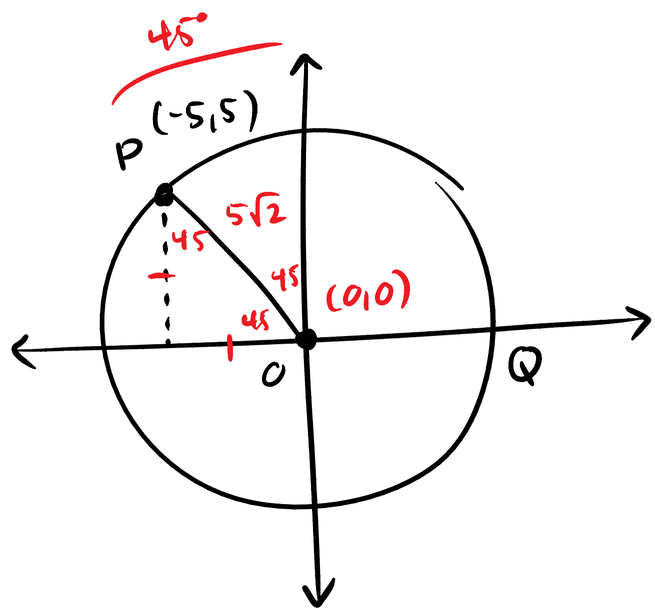
Find m arc cut off by side of polygon if

a. regular hexagon $\frac{360}{6} = 60^\circ$

b. regular pentagon $\frac{360}{5} = 72^\circ$

c. regular octagon $\frac{360}{8} = 45^\circ$

#19



a. Find radius

$r = \sqrt{(-5-0)^2 + (5-0)^2}$

$r = \sqrt{25 + 25}$

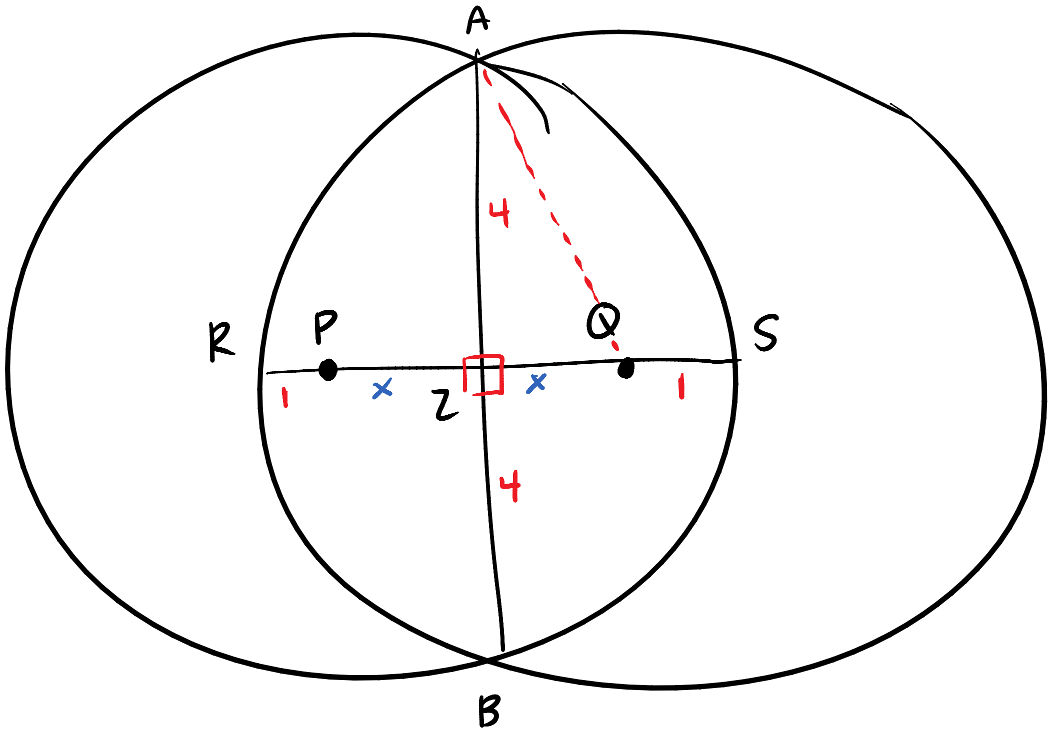
$r = \sqrt{50}$

$r = 5\sqrt{2}$ ← OR recognize 45;45;90

b. $\overset{\frown}{PQ} = 45 + 90$

$= \boxed{135^\circ}$

#24



Find PQ

Radii $= x + x + 1$

$= 2x + 1$

$x^2 + 4^2 = (2x+1)^2$

$x^2 + 16 = 4x^2 + 4x + 1$

$0 = 3x^2 + 4x - 15$

$0 = (3x-5)(x+3)$

$x = \frac{5}{3}, -3$

$PQ = \frac{5}{3} + \frac{5}{3} = \frac{10}{3}$