

Test Review 2

Find the area of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

1) radius = 9 km $\pi \cdot 9^2 = \boxed{254.5}$

2) radius = 11.1 km $\pi \cdot 11.1^2 = \boxed{387.1}$

3) diameter = 8 ft $\pi \cdot 4^2 = \boxed{50.3}$

4) diameter = 22 in $\pi \cdot 11^2 = \boxed{380.1}$

5) circumference = 18.8 km $\pi \cdot 3^2 = \boxed{28.3}$

6) circumference = 37.7 km $\pi \cdot 6^2 = \boxed{113.1}$

$\frac{18.8}{2\pi} = \frac{2\pi r}{2\pi}$
 $r = 3$

$\frac{37.7}{2\pi} = \frac{2\pi r}{2\pi}$
 $r = 6$

Find the radius of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

7) circumference = 69.1 yd

$\frac{69.1}{2\pi} = \frac{2\pi r}{2\pi} \approx \boxed{11}$

8) circumference = 18.8 in

$18.8 = 2\pi r \approx \boxed{3}$

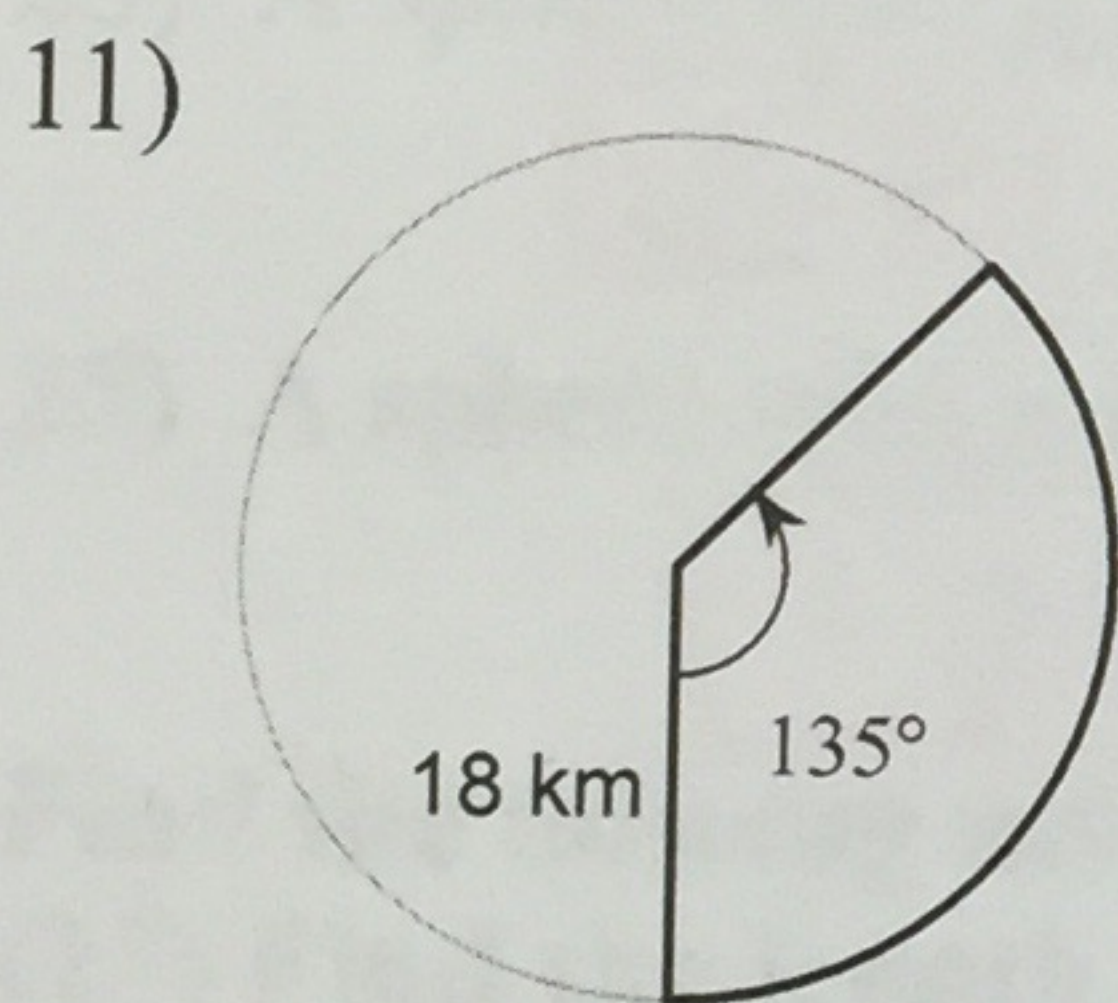
9) area = 28.3 km²

$28.3 = \pi r^2$
 $9 = r^2$
 $\boxed{3 = r}$

10) area = 113.1 cm²

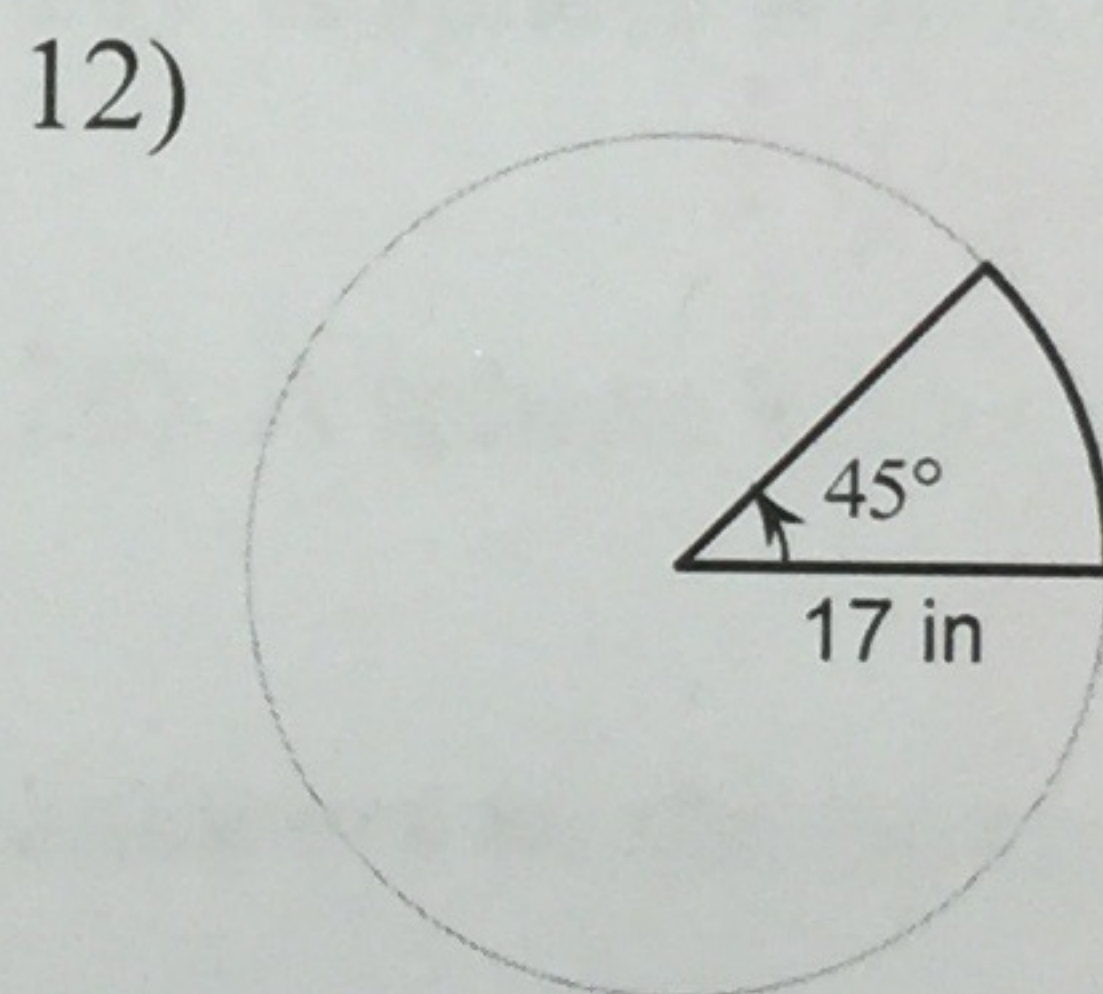
$113.1 = \pi r^2$
 $36 = r^2$
 $\boxed{6 = r}$

Find the area of each sector. Round your answers to the nearest tenth.



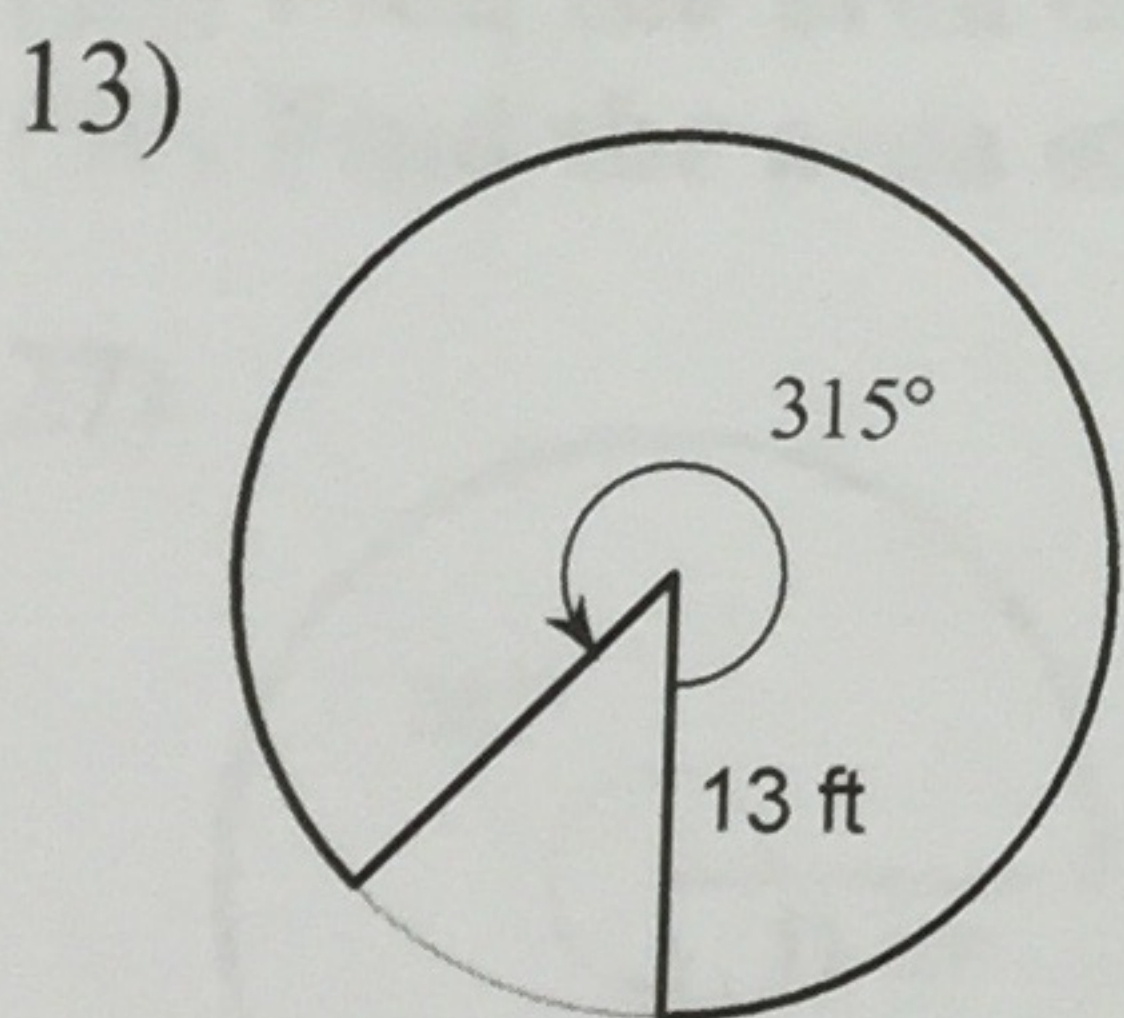
$\frac{x}{\pi(18)^2} = \frac{135}{360}$

$\boxed{381.7}$



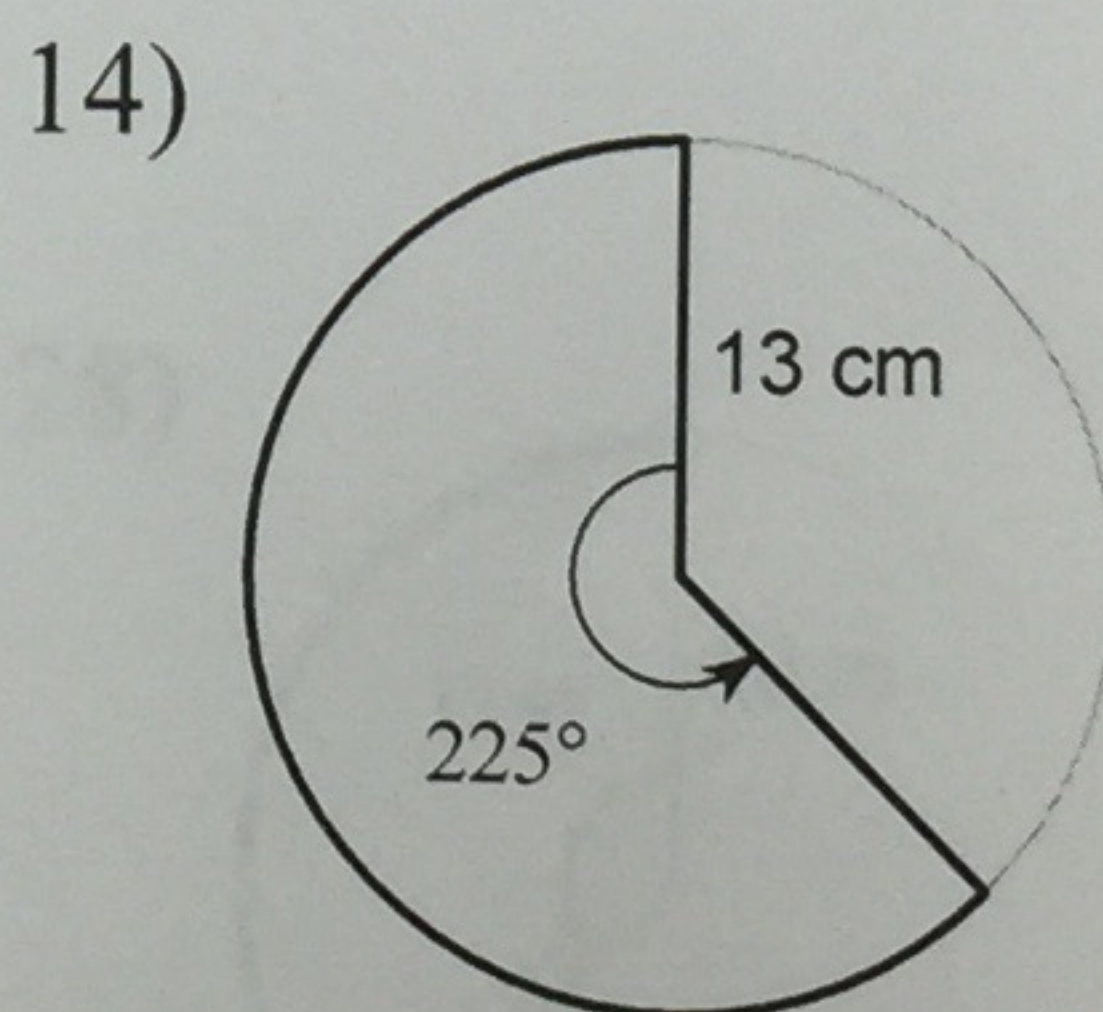
$\frac{x}{\pi(17)^2} = \frac{45}{360}$

$\boxed{113.5}$



$\frac{x}{\pi(13)^2} = \frac{315}{360}$

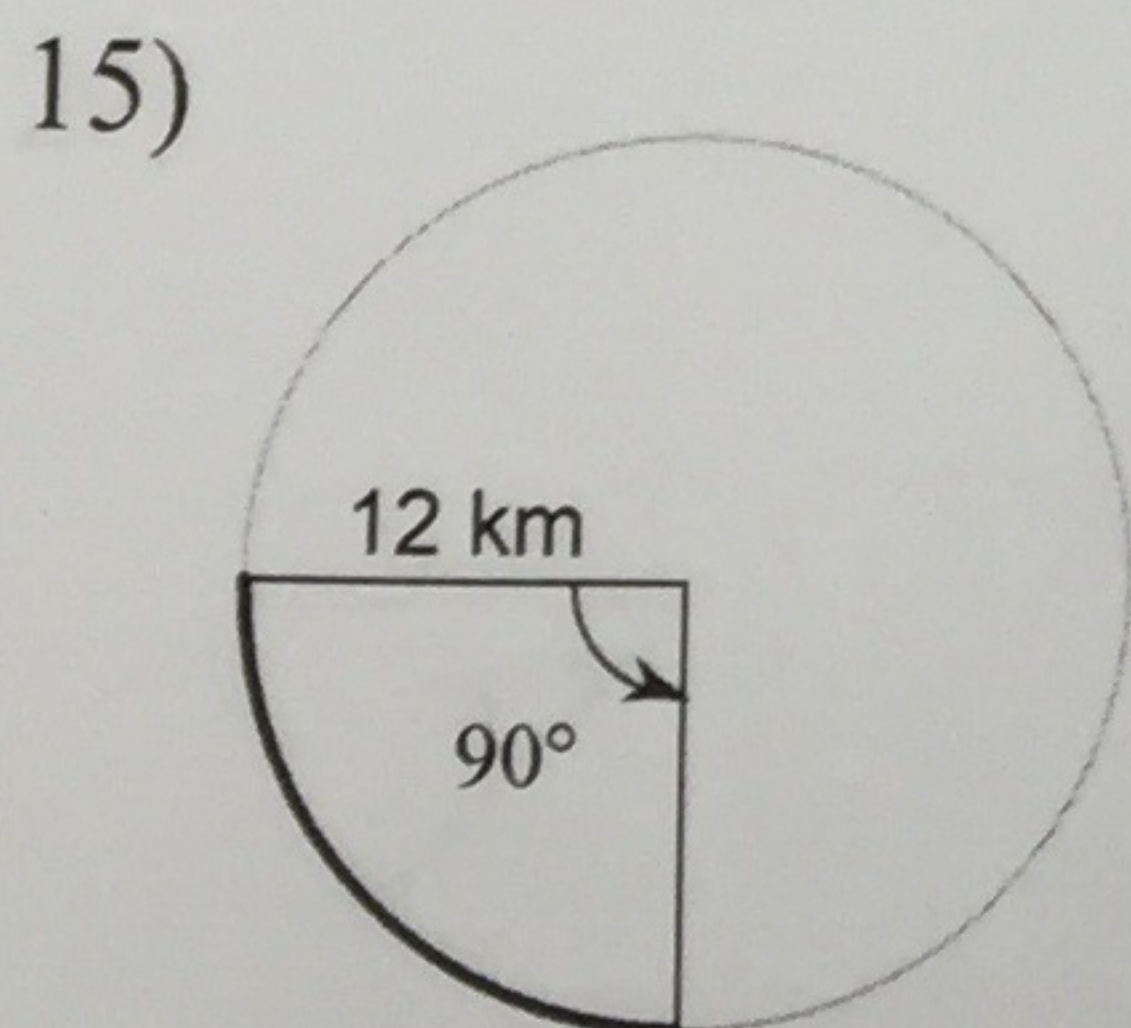
$\boxed{464.6}$



$\frac{x}{\pi(13)^2} = \frac{225}{360}$

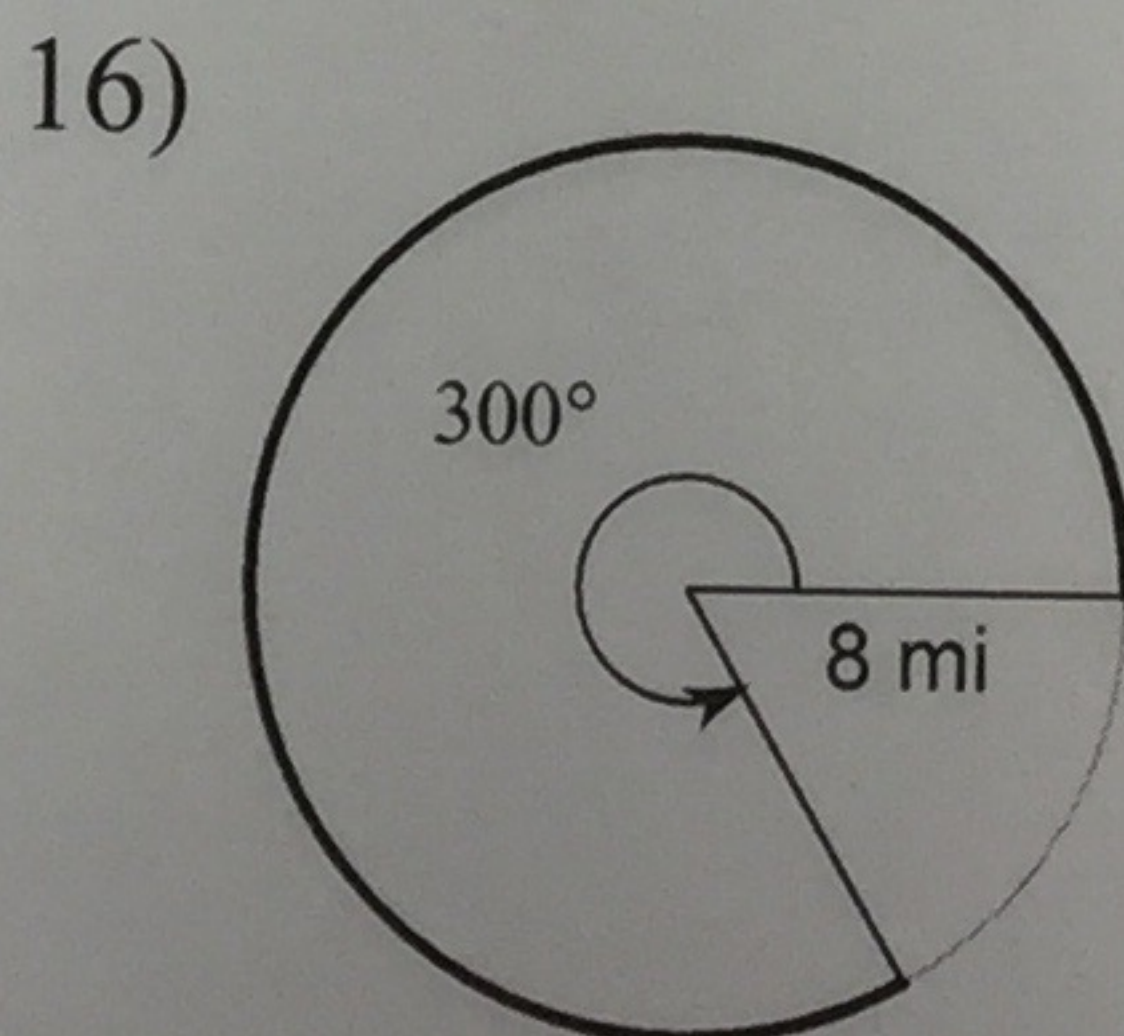
$\boxed{331.8}$

Find the length of each arc. Round your answers to the nearest tenth.



$\frac{x}{2\pi(12)} = \frac{90}{360}$

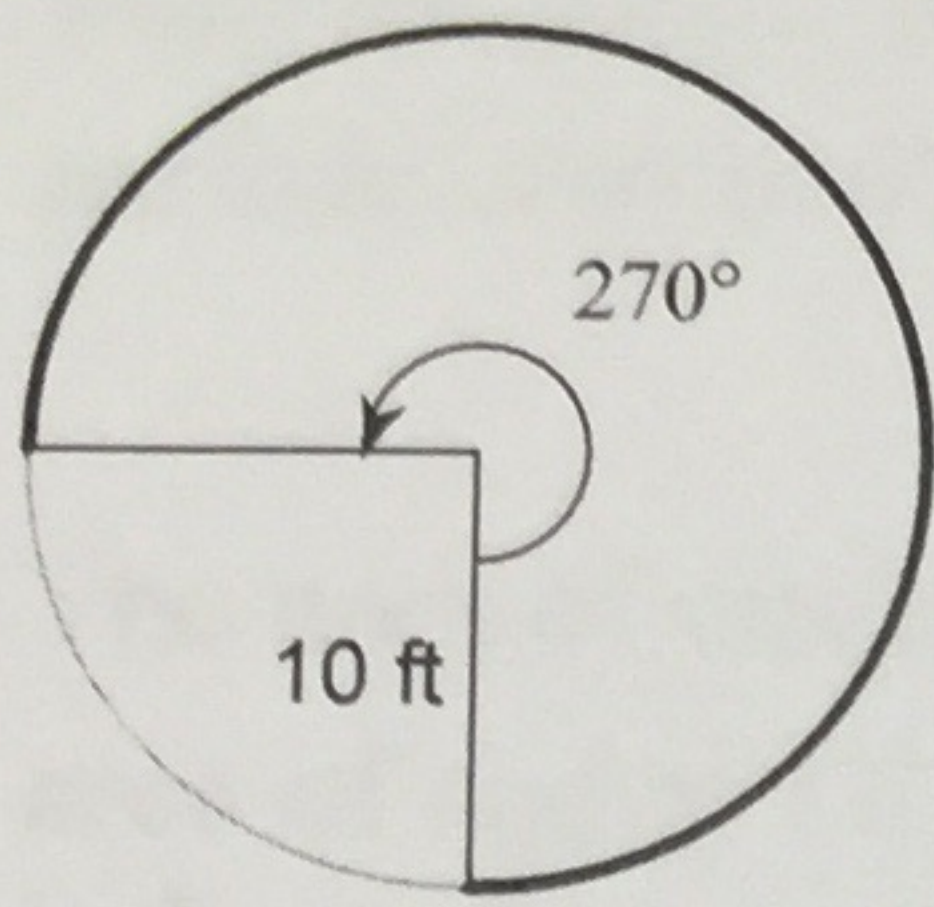
$\boxed{18.8}$



$\frac{x}{2\pi(8)} = \frac{300}{360}$

$\boxed{41.9}$

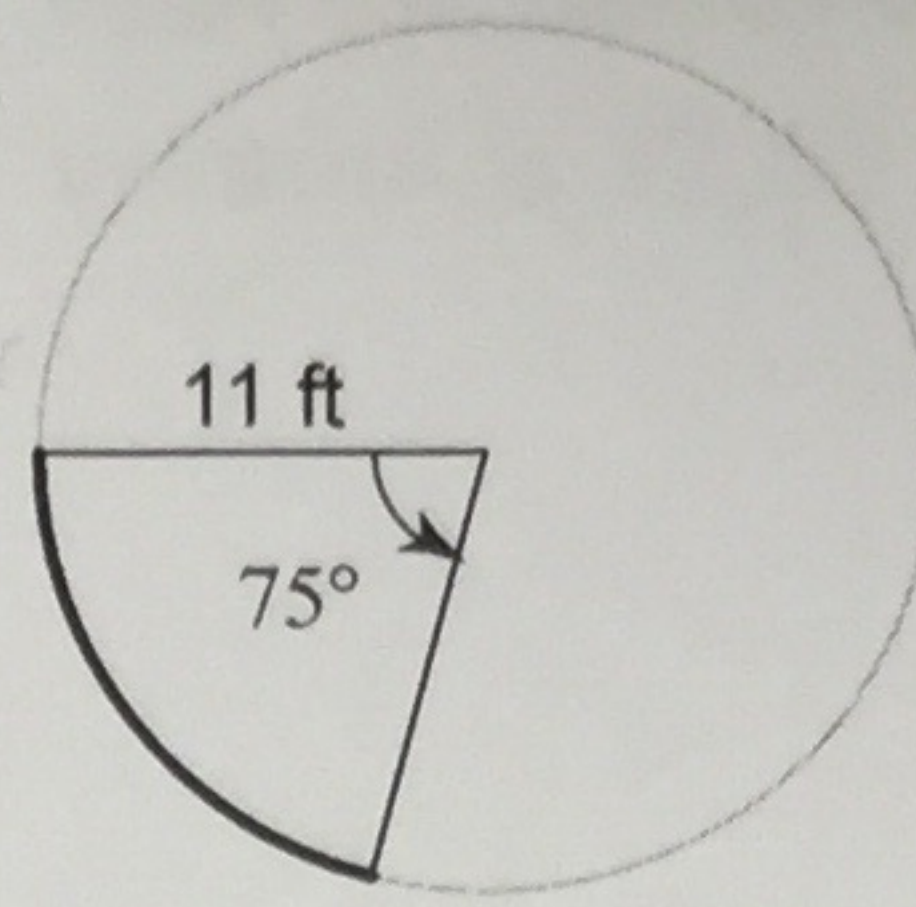
17)



$$\frac{x}{2\pi(10)} = \frac{270}{360}$$

$$x = 47.1$$

18)

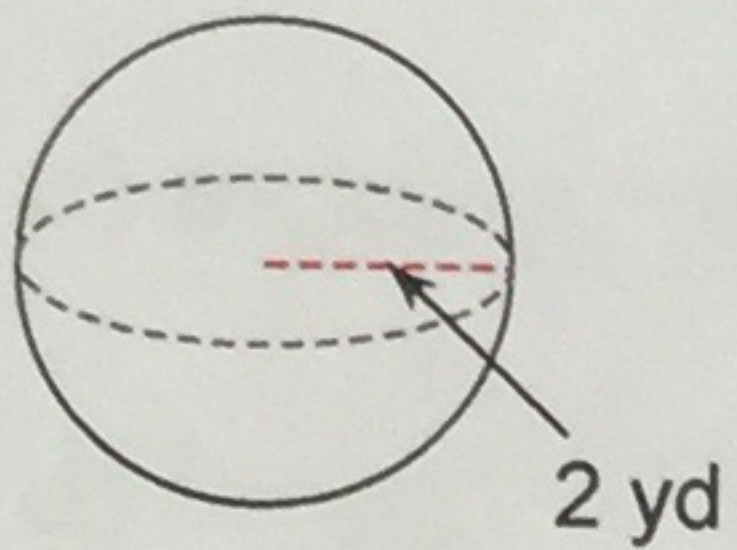


$$\frac{x}{2\pi(11)} = \frac{75}{360}$$

$$x = 14.4$$

Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary.

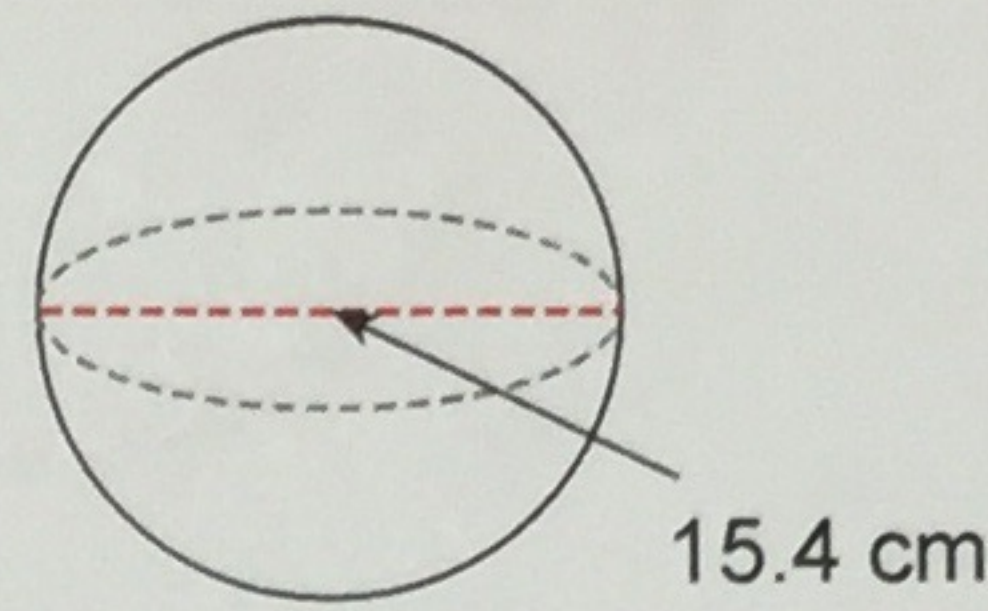
19)



$$4 \cdot \pi \cdot 2^2$$

$$50.27$$

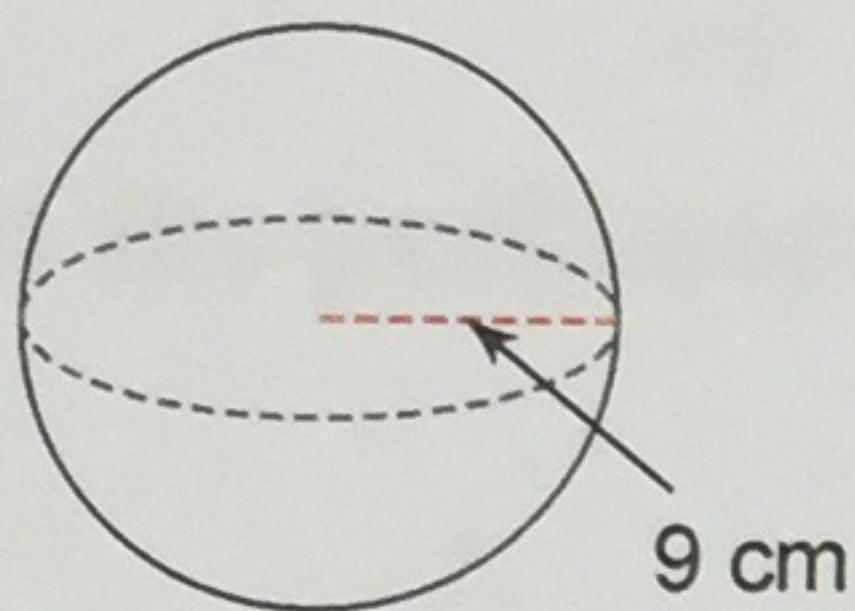
20)



$$4 \cdot \pi \cdot 7.7^2$$

$$745.06$$

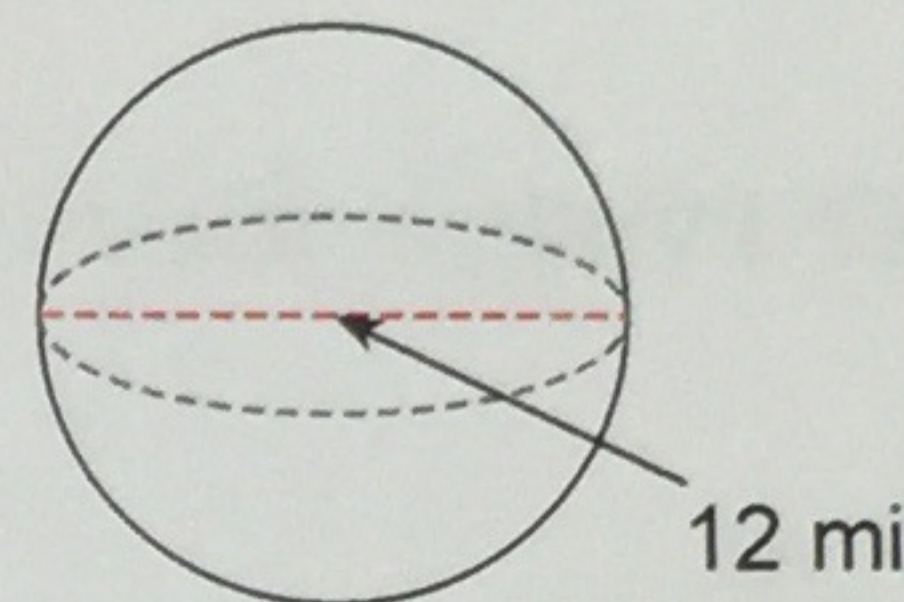
21)



$$4 \cdot \pi \cdot 9^2$$

$$1017.88$$

22)



$$4 \cdot \pi \cdot 6^2$$

$$452.39$$

Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

23) A sphere with a diameter of 23 m.

$$6370.63$$

24) A sphere with a diameter of 11.4 km.

$$775.73$$

25) A sphere with a radius of 12 ft.

$$7238.23$$

26) A sphere with a diameter of 9.6 m.

$$463.25$$

Find the missing info in each problem. Round your answers to the nearest tenth.

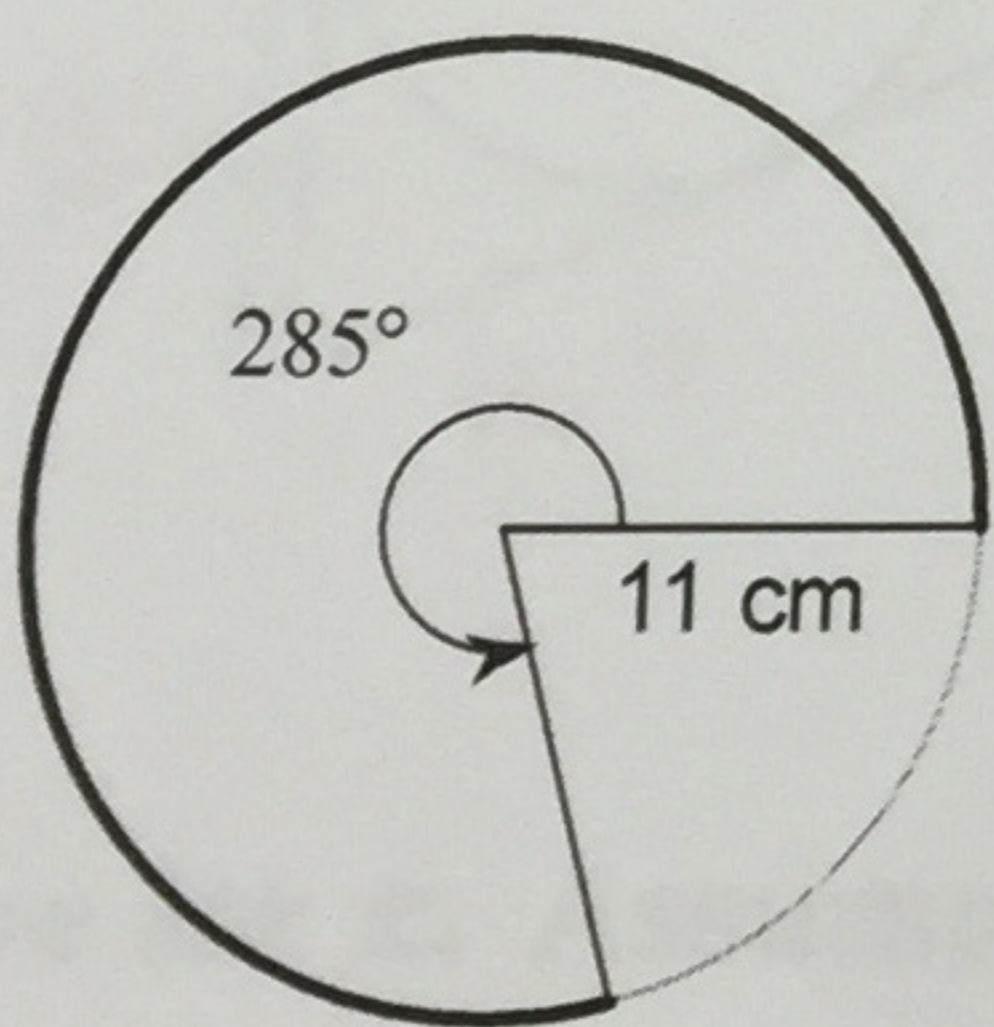
(27) Find the length of the arc of the smaller sector.

(28) Find the length of the arc of the larger sector.

(29) Find the area of the larger sector.

(30) Find the area of the smaller sector.

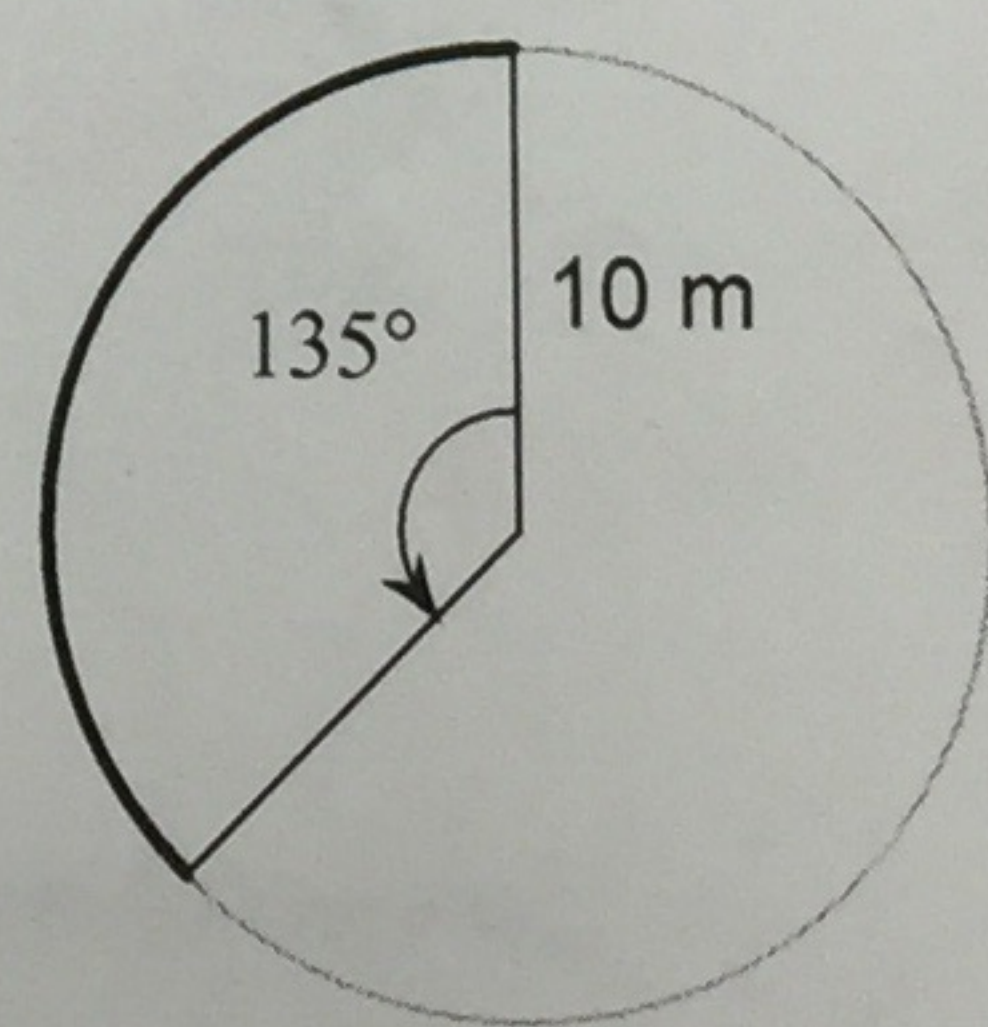
27)



$$\frac{x}{2\pi(11)} = \frac{75}{360}$$

$$x = 14.4$$

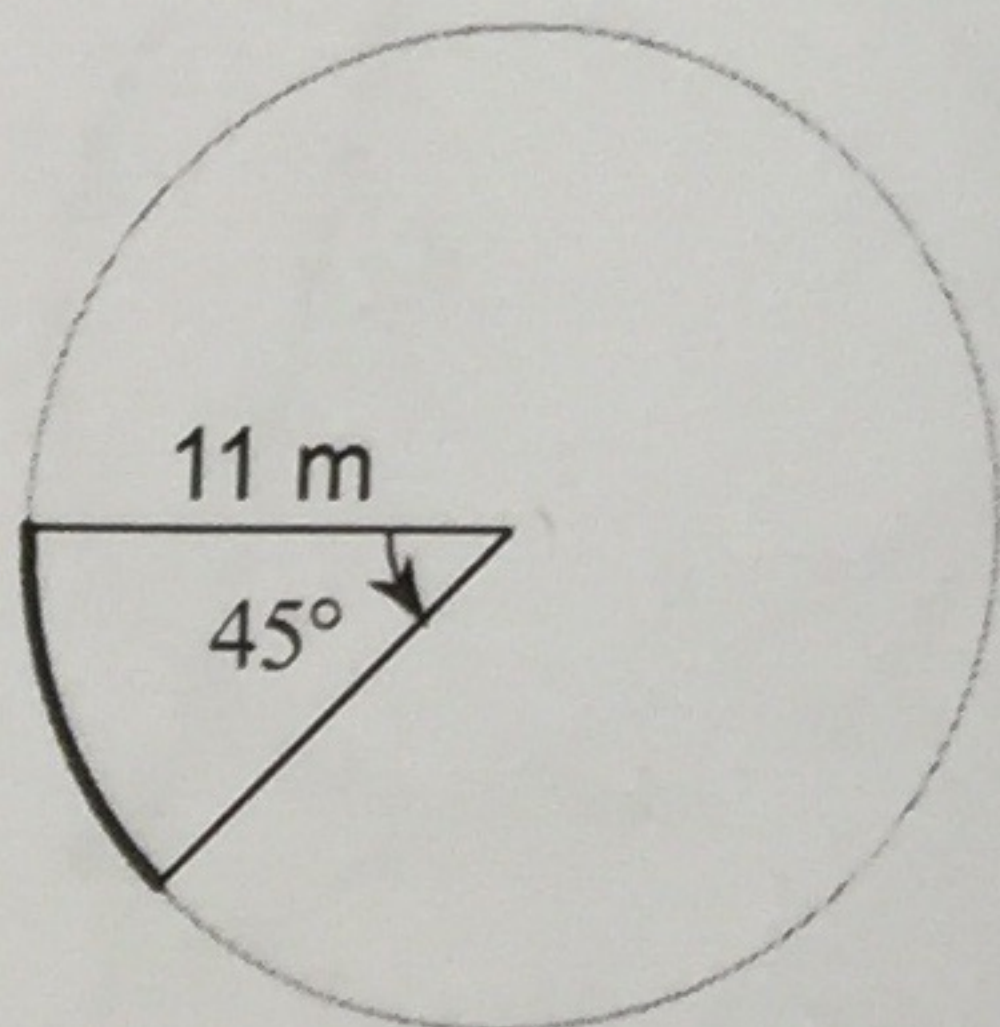
28)



$$\frac{x}{2\pi(10)} = \frac{225}{360}$$

$$x = 39.3$$

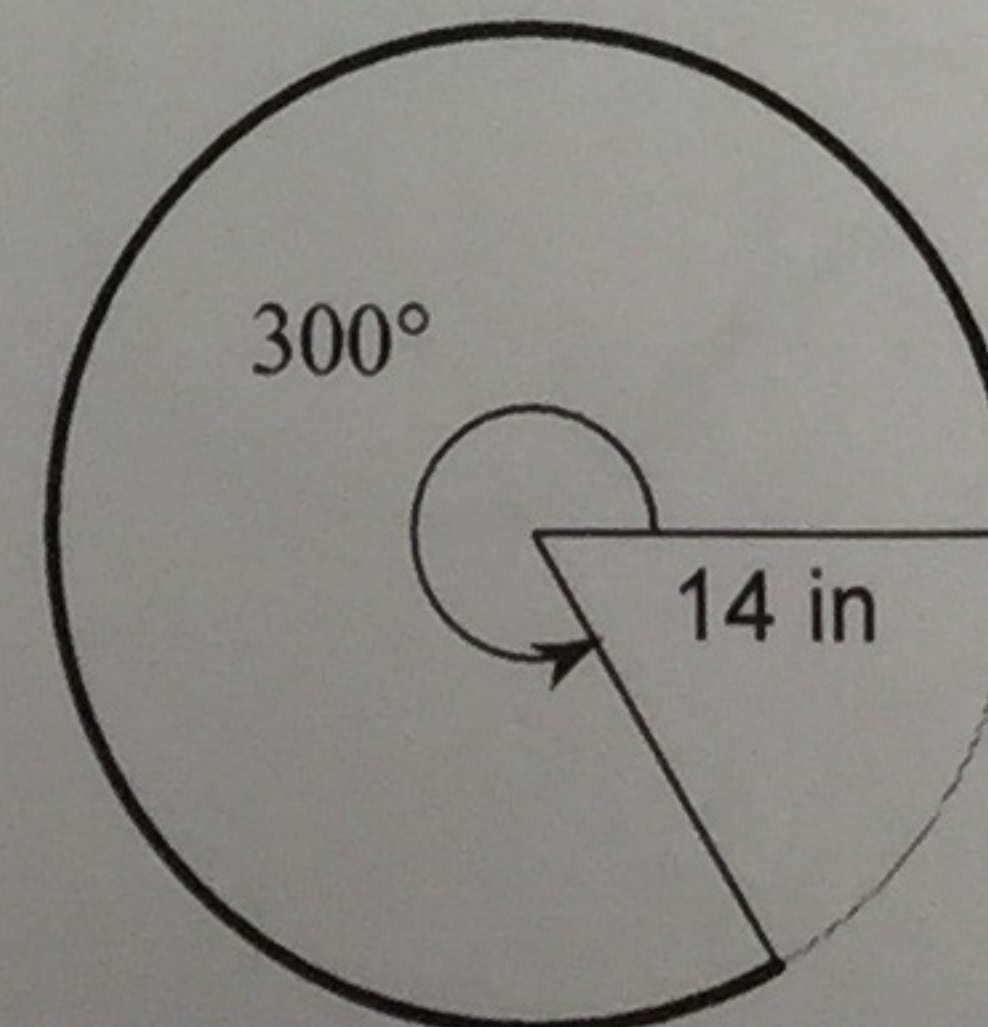
29)



$$\frac{x}{\pi(11)^2} = \frac{315}{360}$$

$$x = 332.6$$

30)



$$\frac{x}{\pi(14)^2} = \frac{60}{360}$$

$$x = 102.6$$

31) Find the radius of a sphere given the surface area is 678.92 cm^2 . $4\pi r^2 = 678.92$

$$r^2 = 54.03$$

$$r = 7.35$$

32) Find the radius of a sphere given the volume is 32.65 ft^3 . $\frac{4 \cdot \pi \cdot r^3}{3} = 32.65$

$$4 \cdot \pi \cdot r^3 = 97.95$$

$$r^3 = 7.79$$

$$r = 1.98$$

33) The area of circle $\odot U$ is 4556.8 ft^2 . The area of sector DUH is 818.55 ft^2 . Find the indicated measure.

a) Radius $4556.8 = \pi r^2$

$$1450.5 = r^2$$

$$r = 38.1$$

b) Circumference

$$2\pi(38.1) = 239.4$$

c) measure of arc DH $\frac{818.55}{4556.8} = \frac{x}{360}$

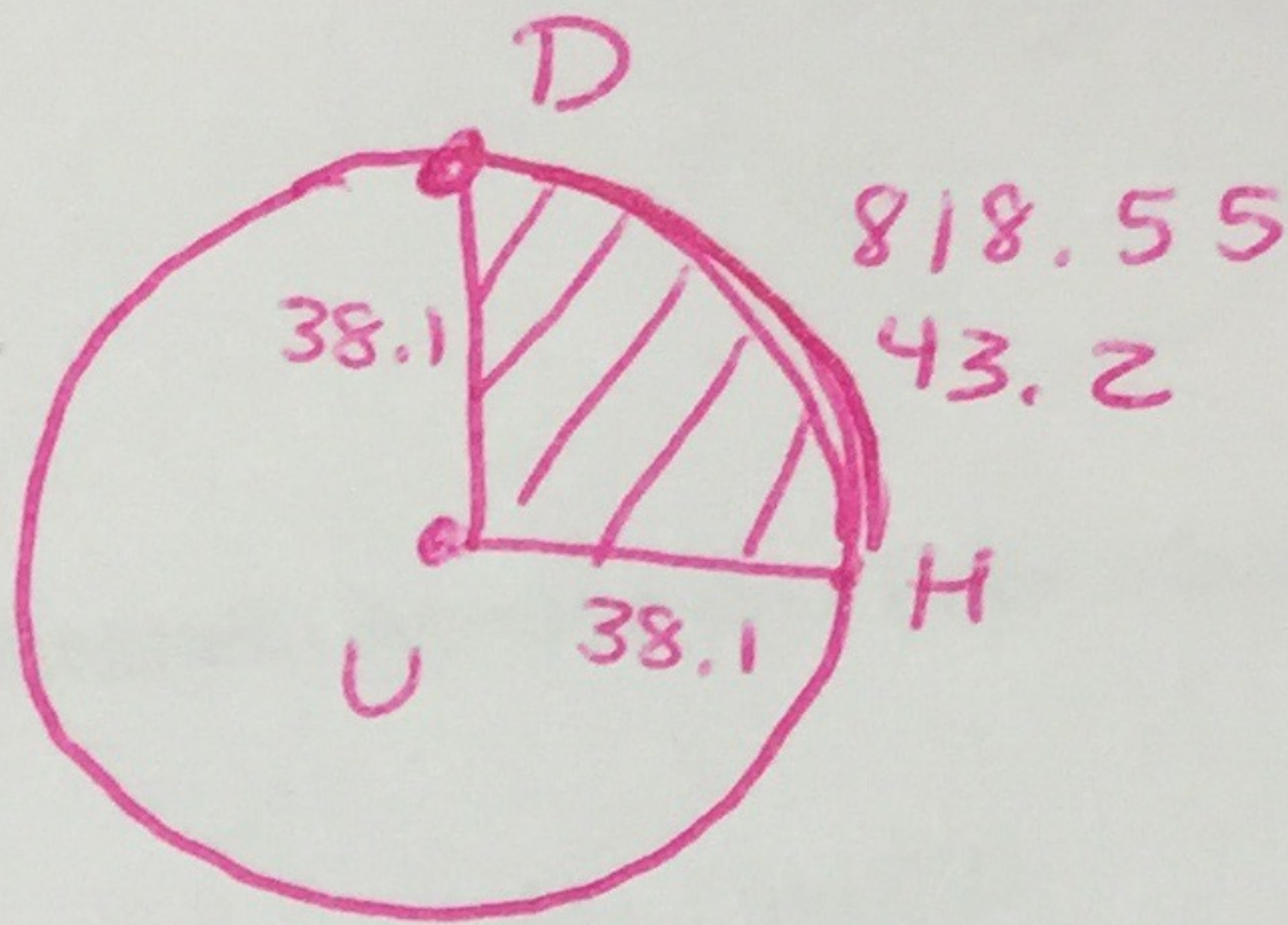
$$65^\circ$$

d) length of arc DH $\frac{x}{360} = \frac{65}{360}$

$$43.2$$

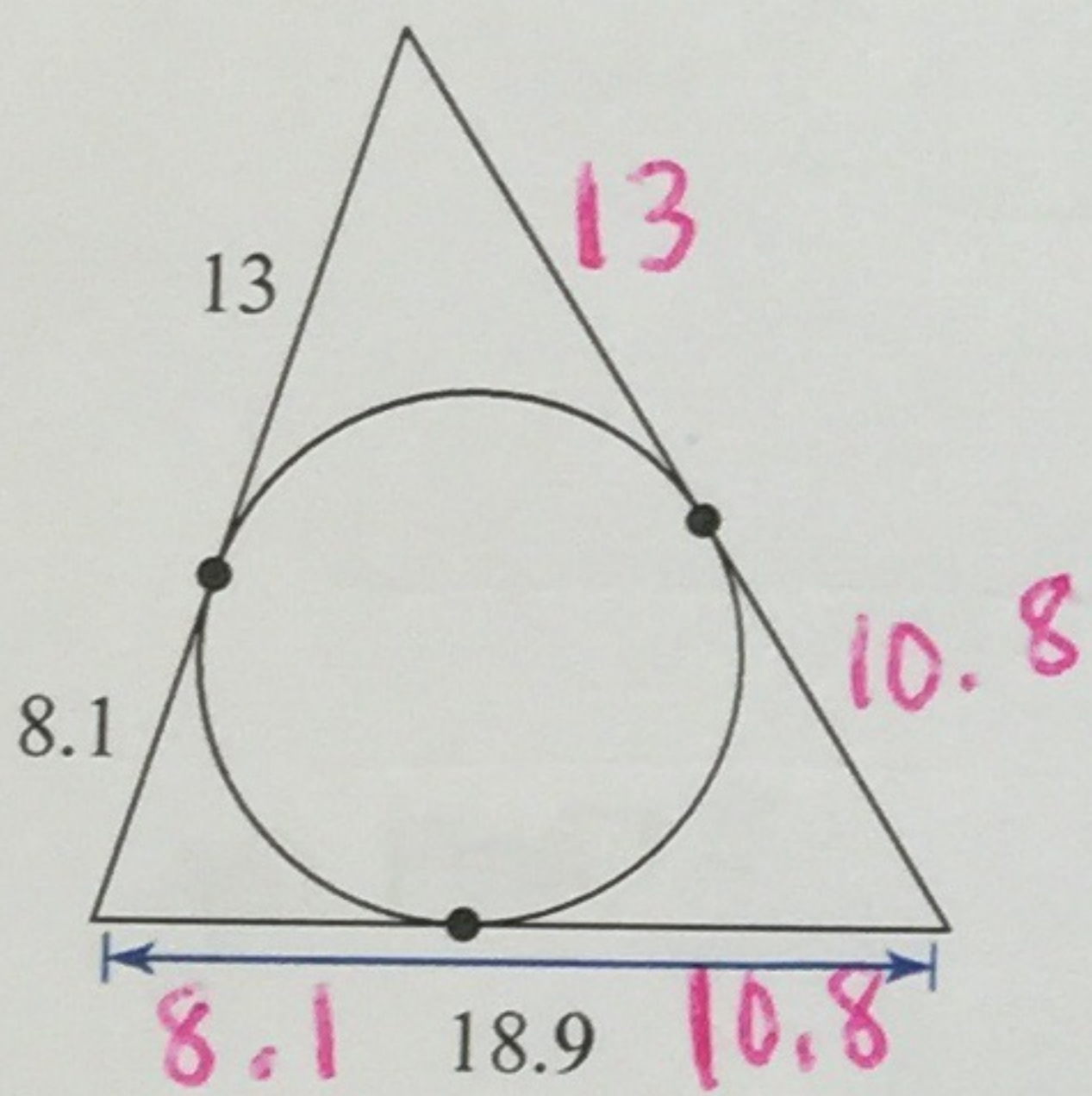
e) perimeter of shaded region

$$38.1 + 38.1 + 43.2 = 119.4$$



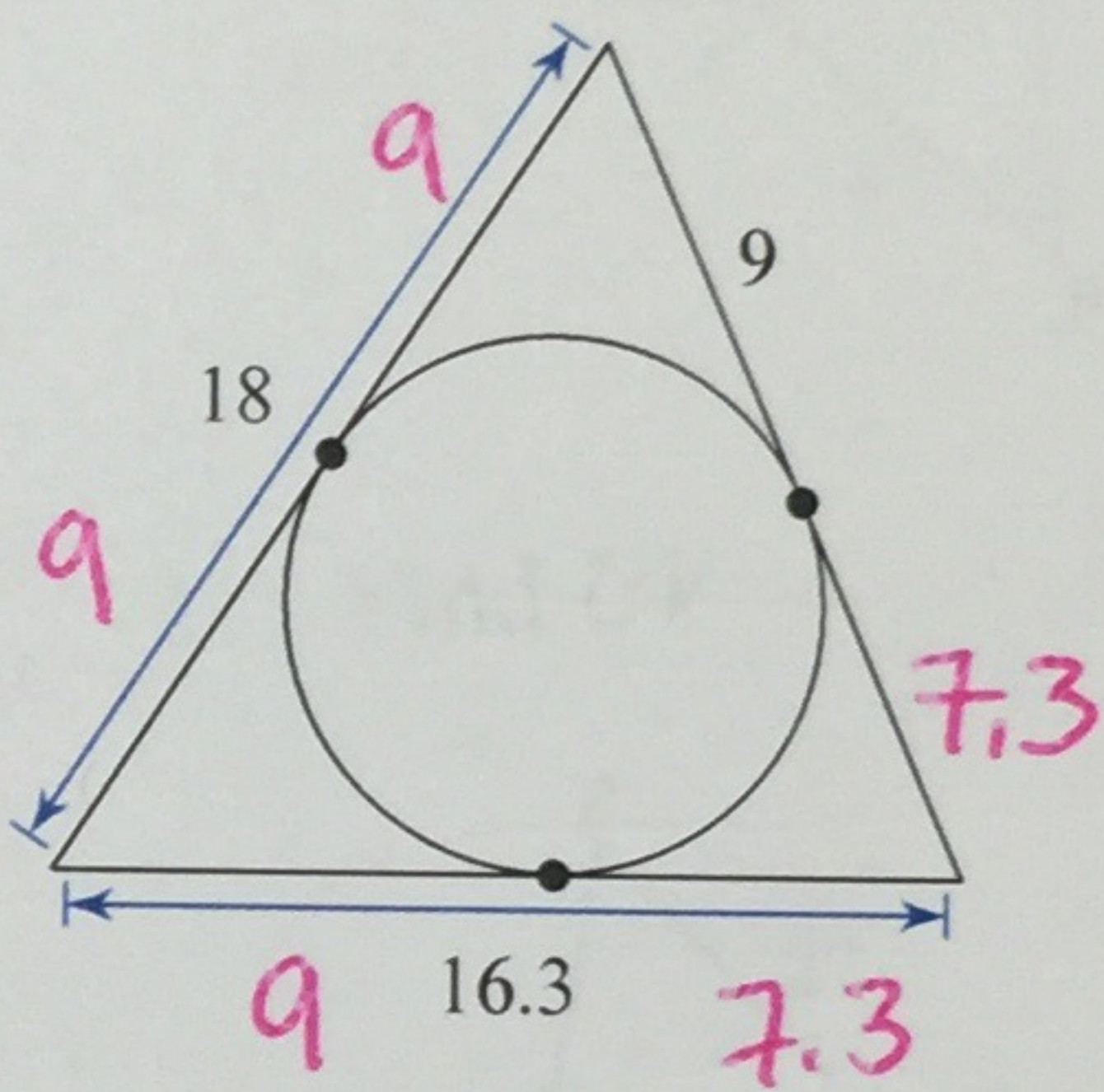
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.

34)



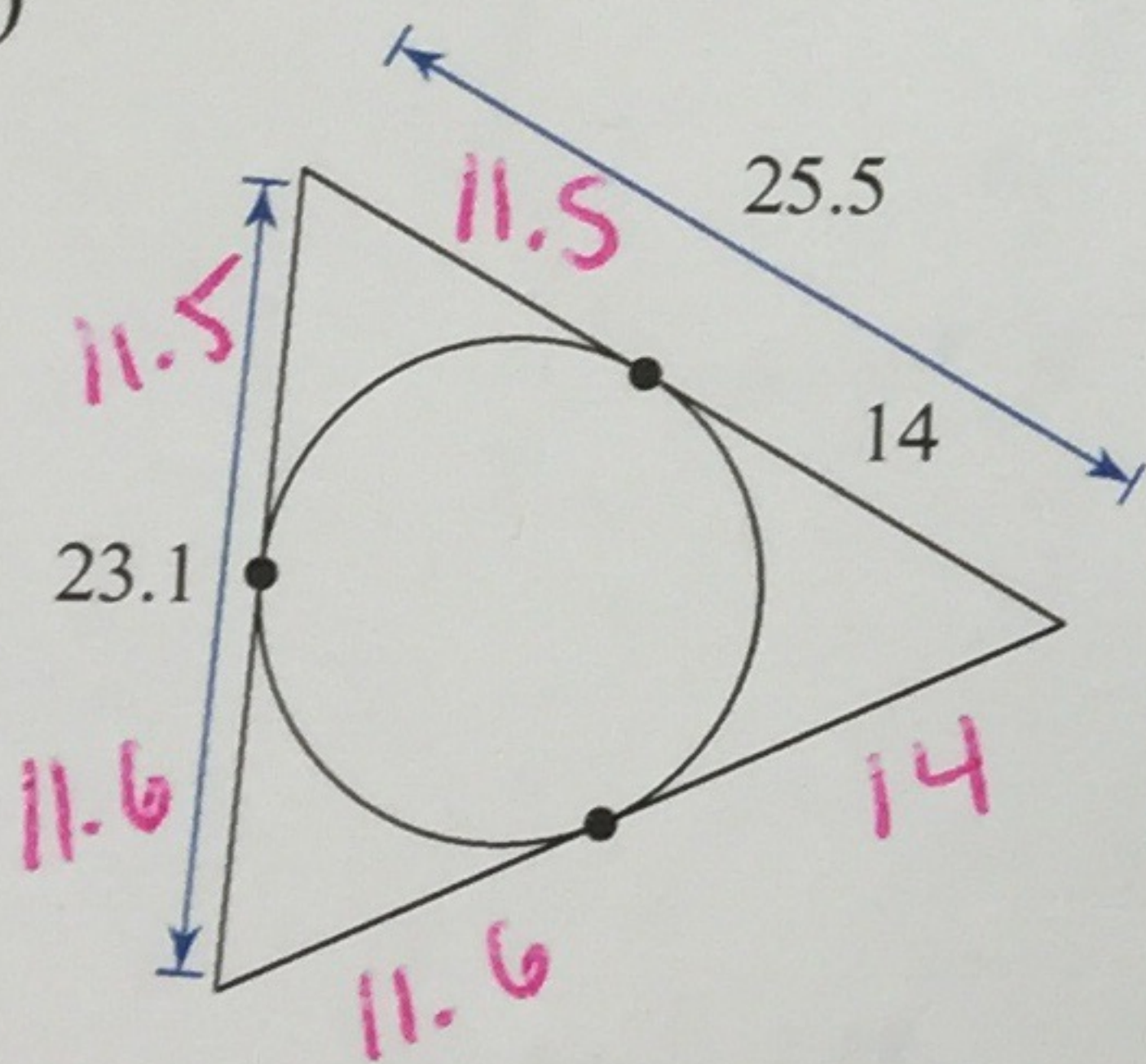
$$63.8$$

35)



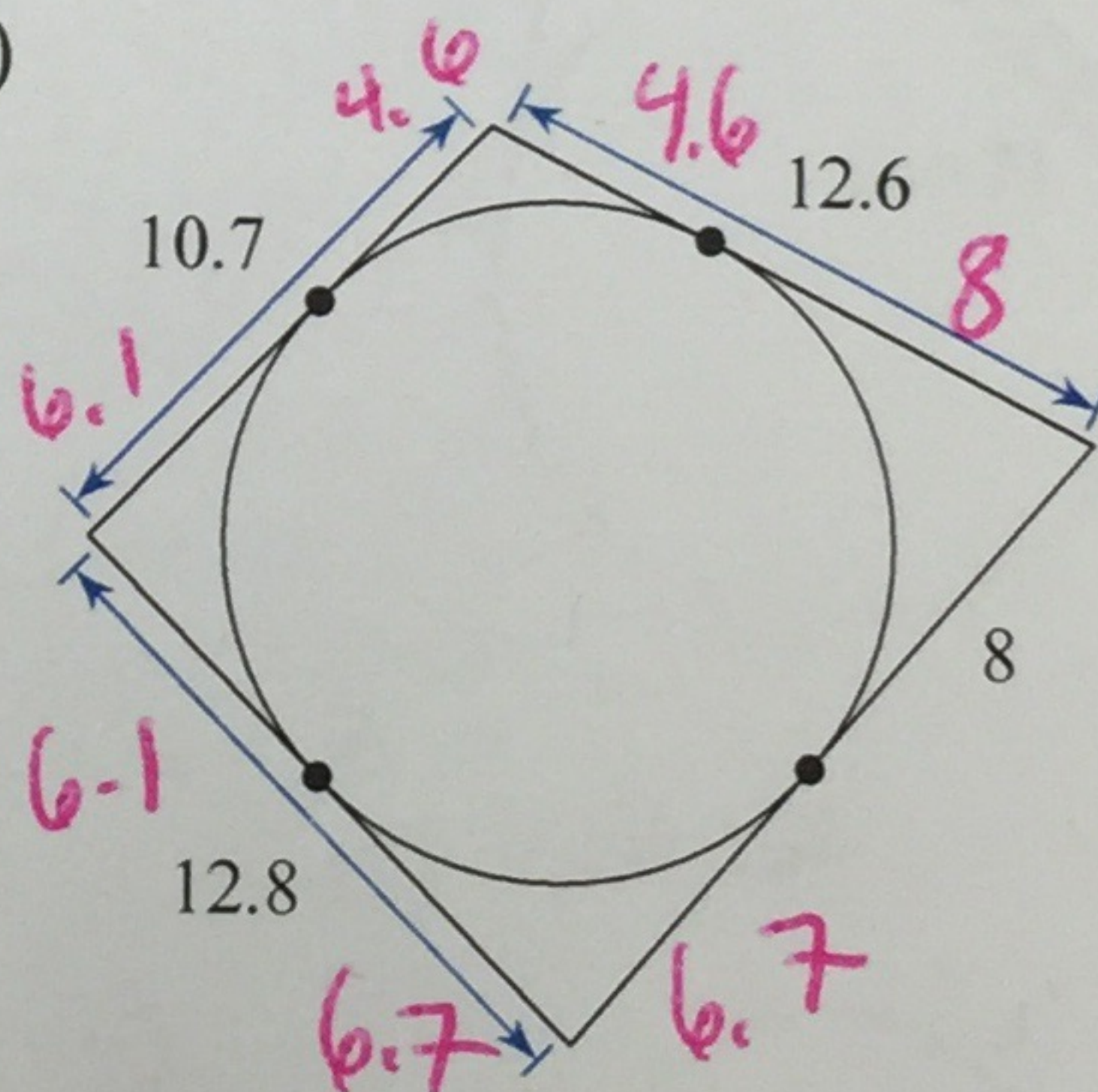
$$50.6$$

36)



$$74.2$$

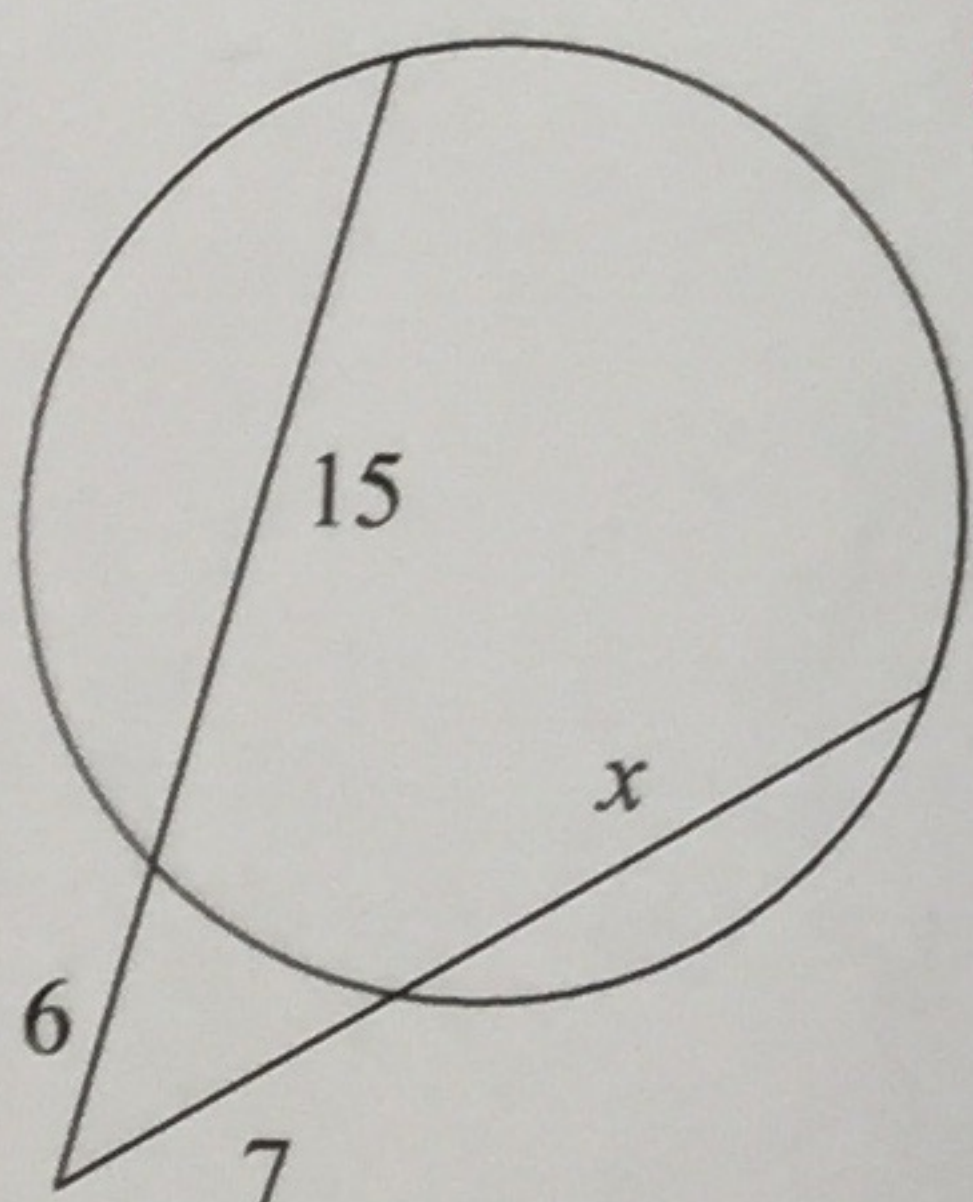
37)



$$50.8$$

Solve for x . Assume that lines which appear tangent are tangent.

38)



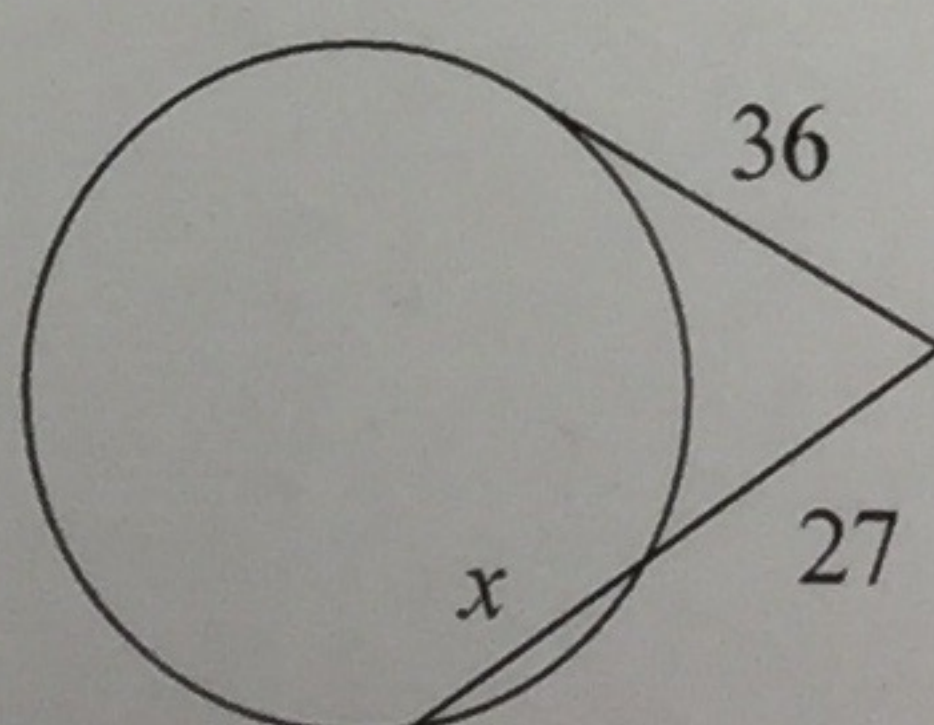
$$7(7+x) = 6(6+15)$$

$$49 + 7x = 126$$

$$7x = 77$$

$$x = 11$$

39)

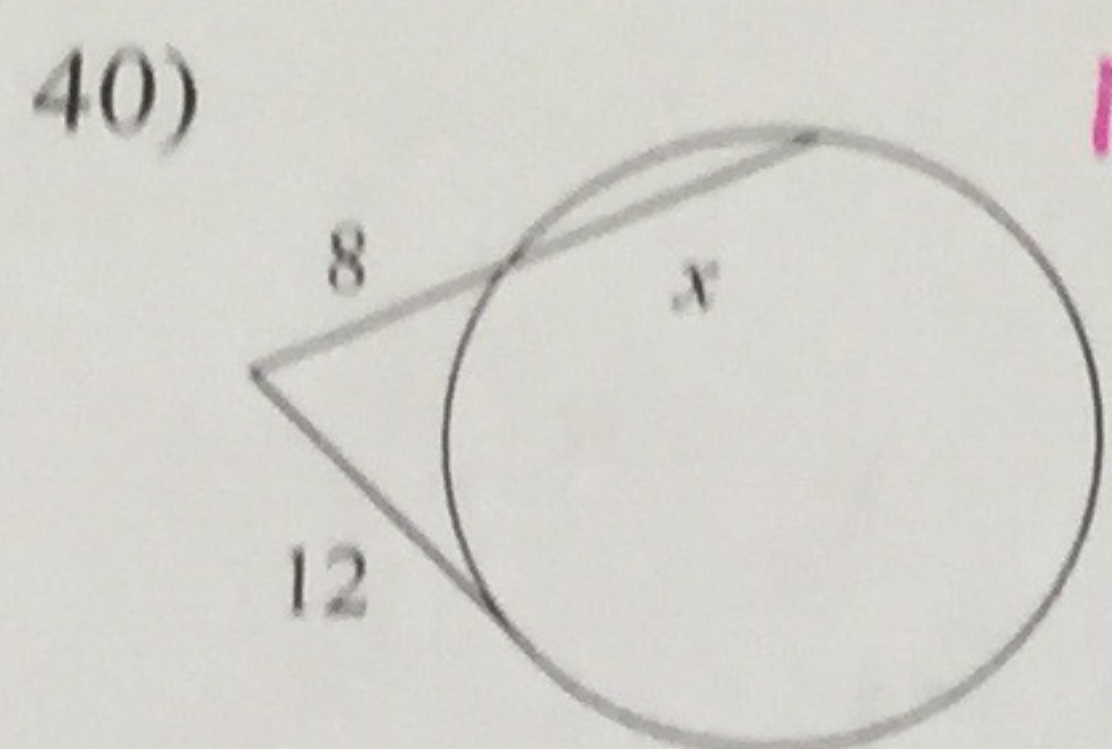


$$36^2 = 27(27+x)$$

$$1296 = 729 + 27x$$

$$567 = 27x$$

$$21 = x$$

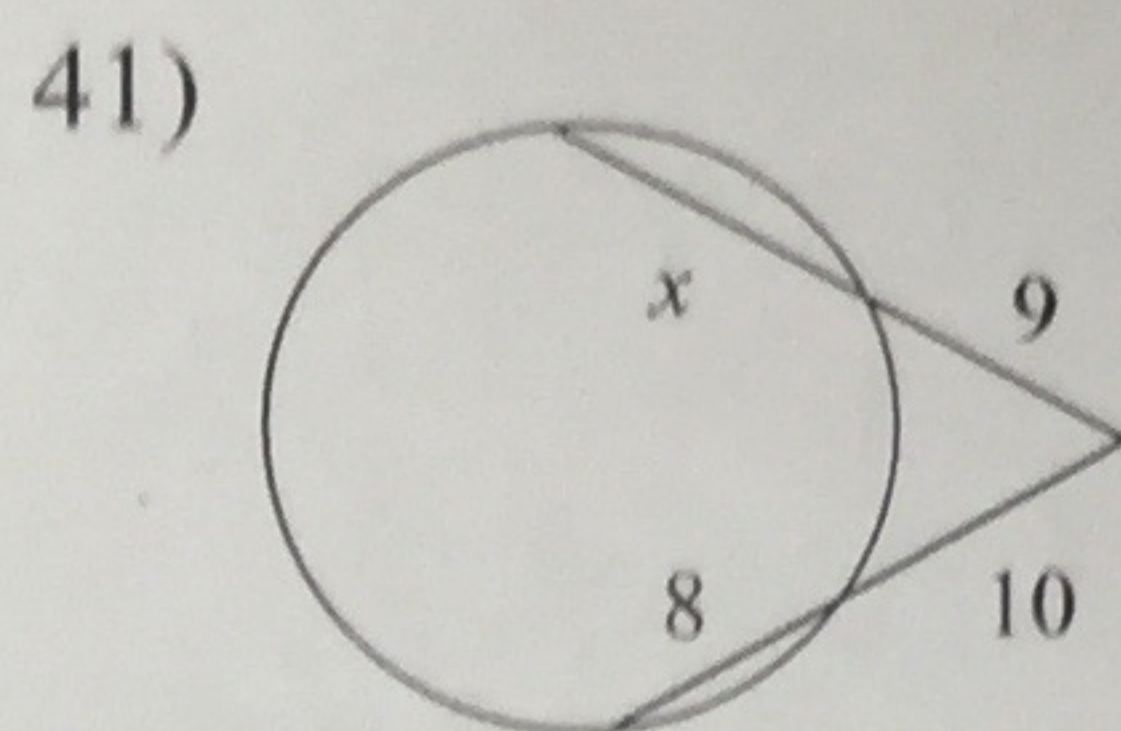


$$12^2 = 8(8+x)$$

$$144 = 64 + 8x$$

$$80 = 8x$$

$$10 = x$$

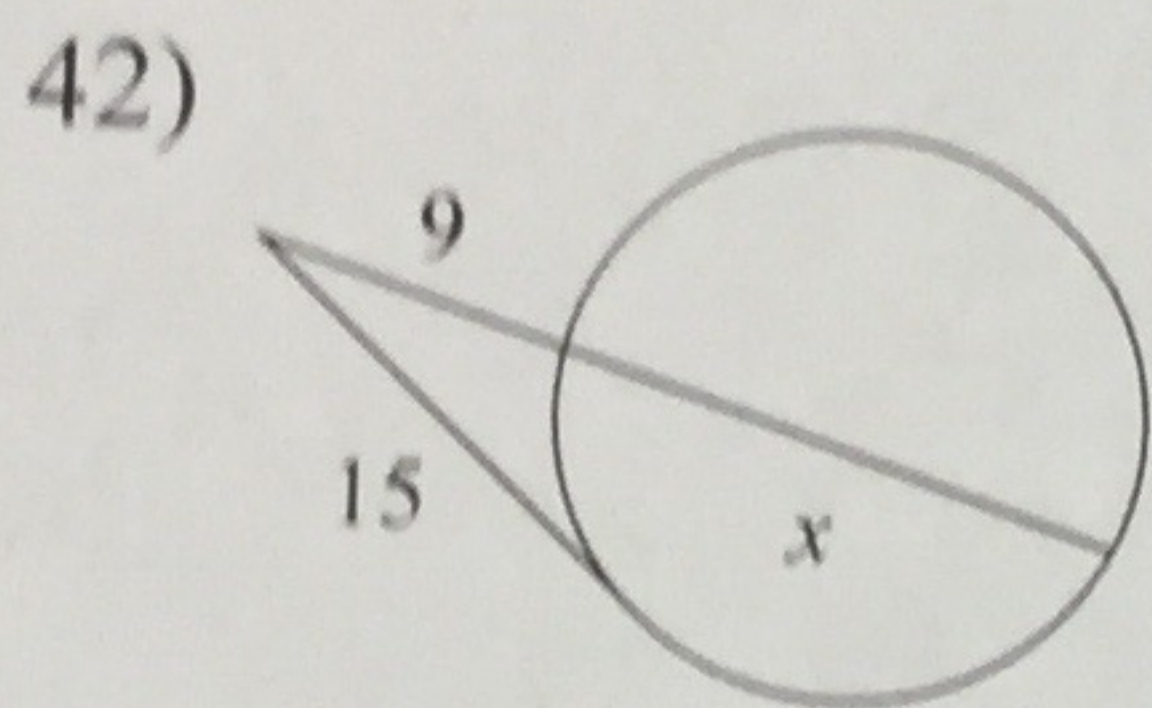


$$9(9+x) = 10(10+8)$$

$$81 + 9x = 180$$

$$9x = 99$$

$$x = 11$$

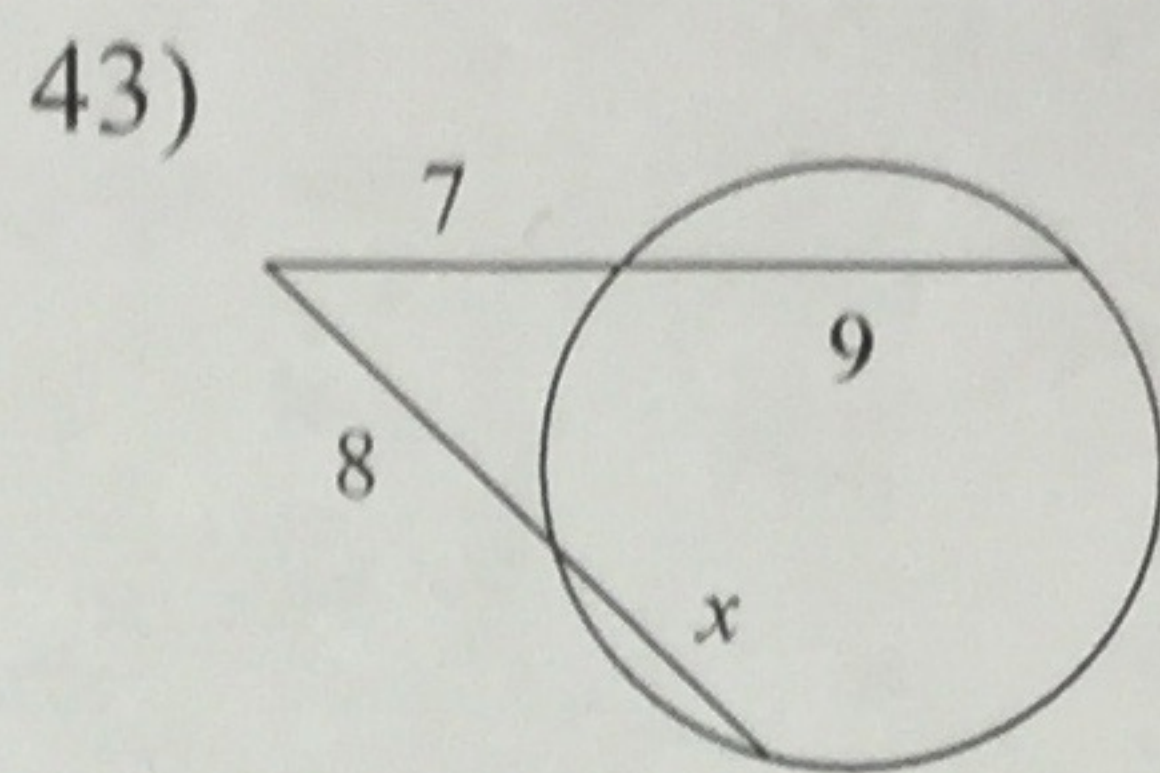


$$15^2 = 9(9+x)$$

$$225 = 81 + 9x$$

$$144 = 9x$$

$$16 = x$$



$$7(7+9) = 8(8+x)$$

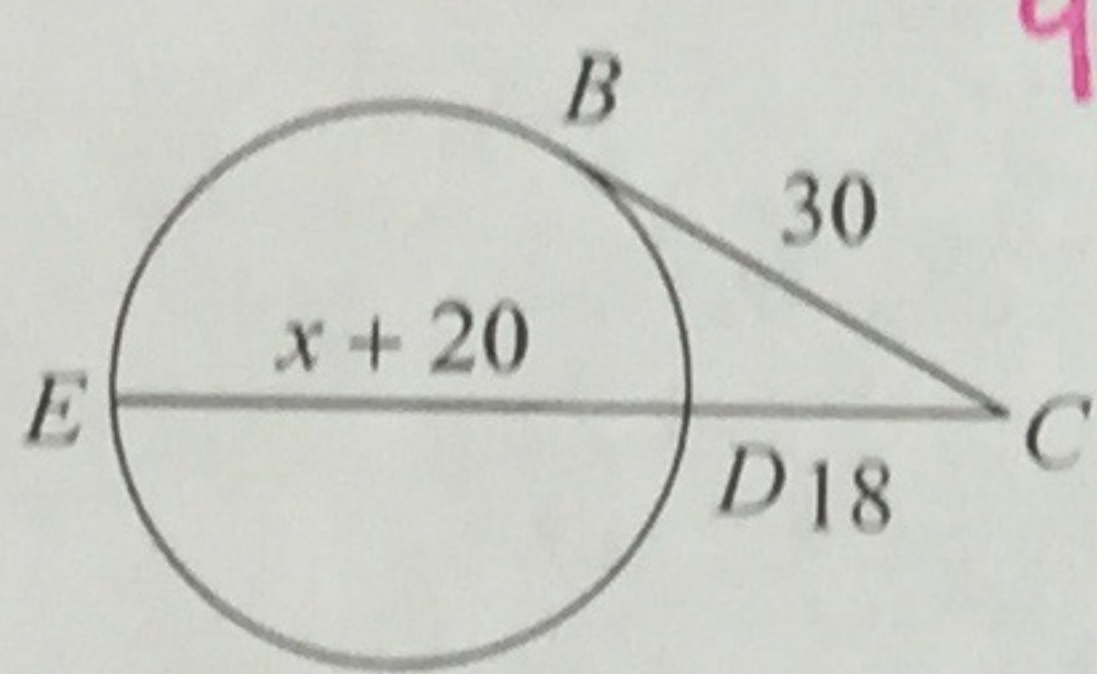
$$112 = 64 + 8x$$

$$48 = 8x$$

$$6 = x$$

Find the measure of the line segment indicated. Assume that lines which appear tangent are tangent.

44) Find CE



$$30^2 = 18(18+x+20)$$

$$900 = 18(38+x)$$

$$900 = 684 + 18x$$

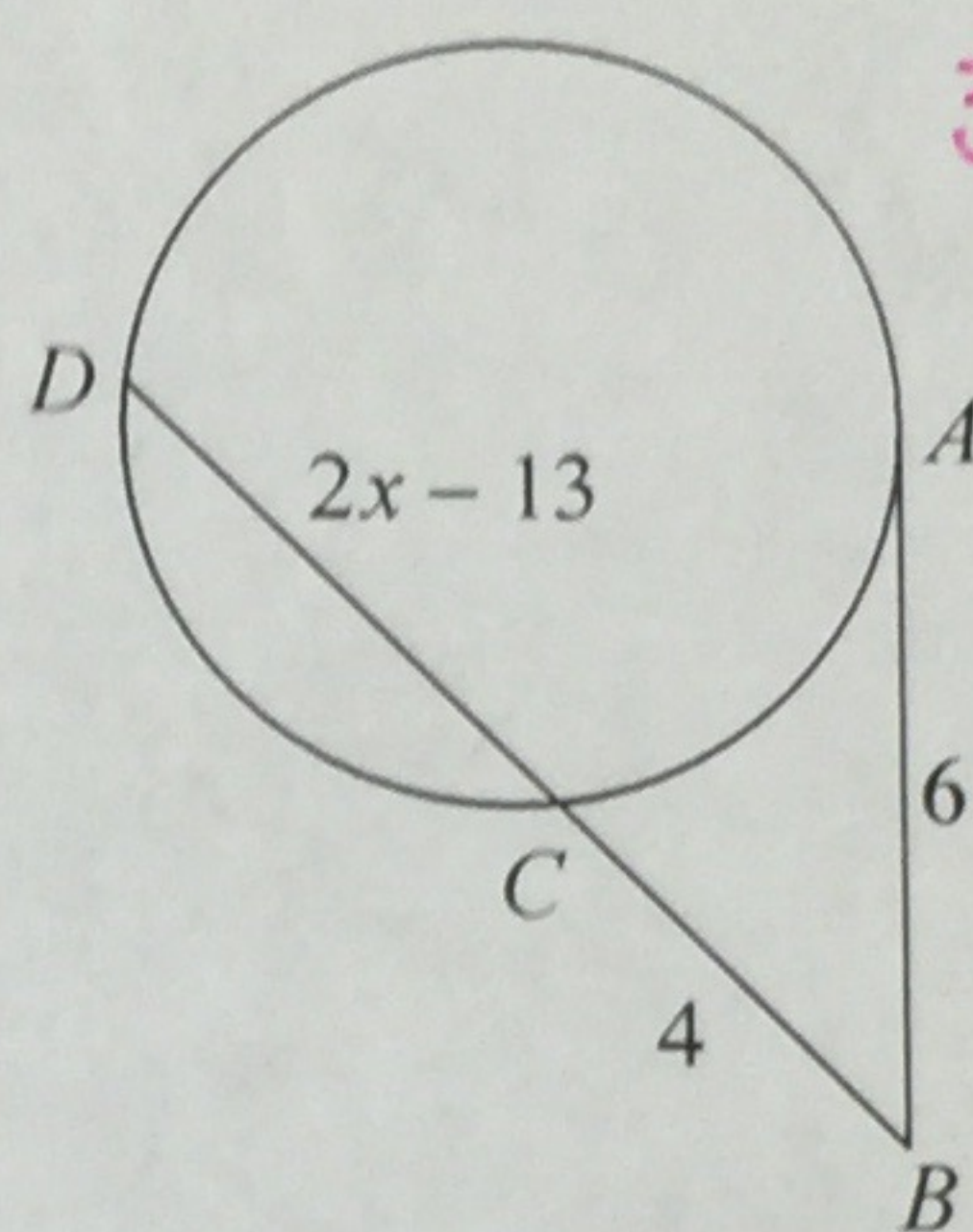
$$216 = 18x$$

$$12 = x$$

$$CE = 18 + (12) + 20$$

$$CE = 50$$

45) Find CD



$$6^2 = 4(4+2x-13)$$

$$36 = 4(-9+2x)$$

$$36 = -36 + 8x$$

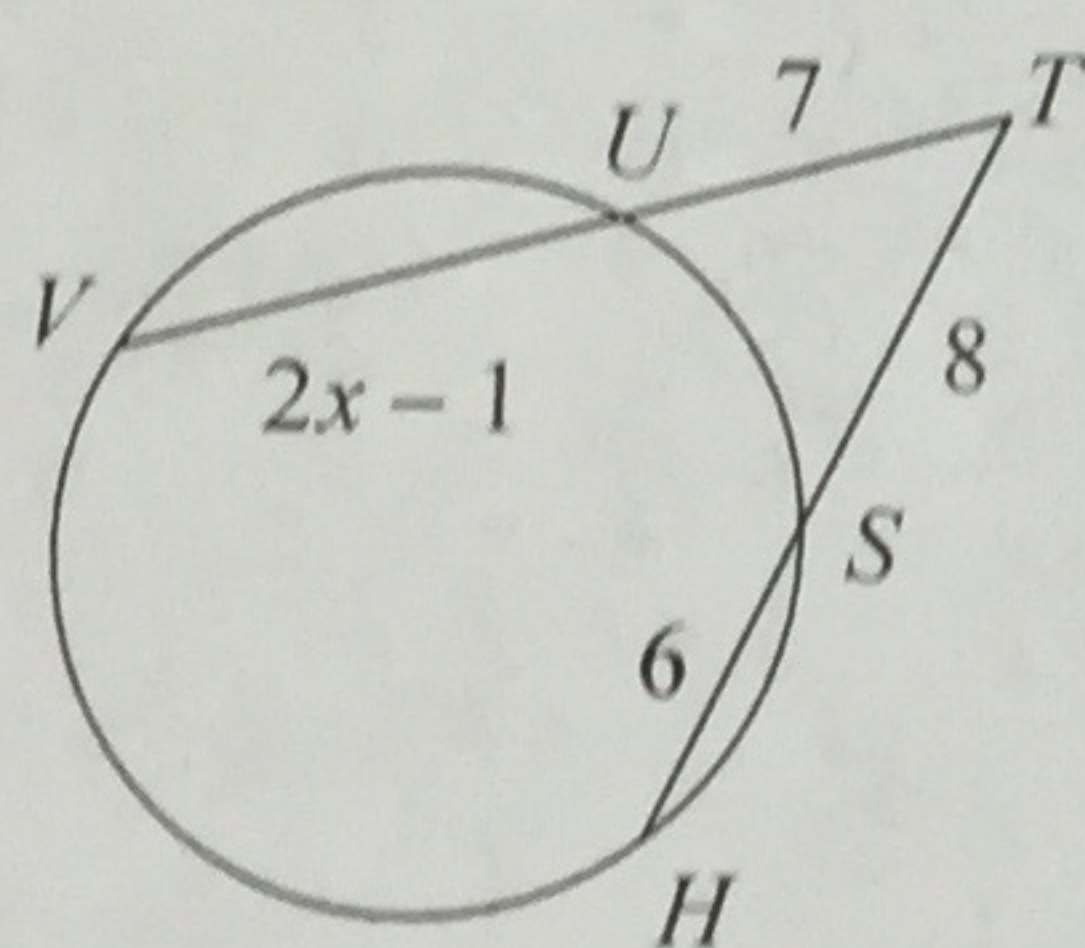
$$72 = 8x$$

$$9 = x$$

$$CD = 2(9) - 13$$

$$CD = 5$$

46) Find VU



$$7(7+2x-1) = 8(8+6)$$

$$7(6+2x) = 8(14)$$

$$42 + 14x = 112$$

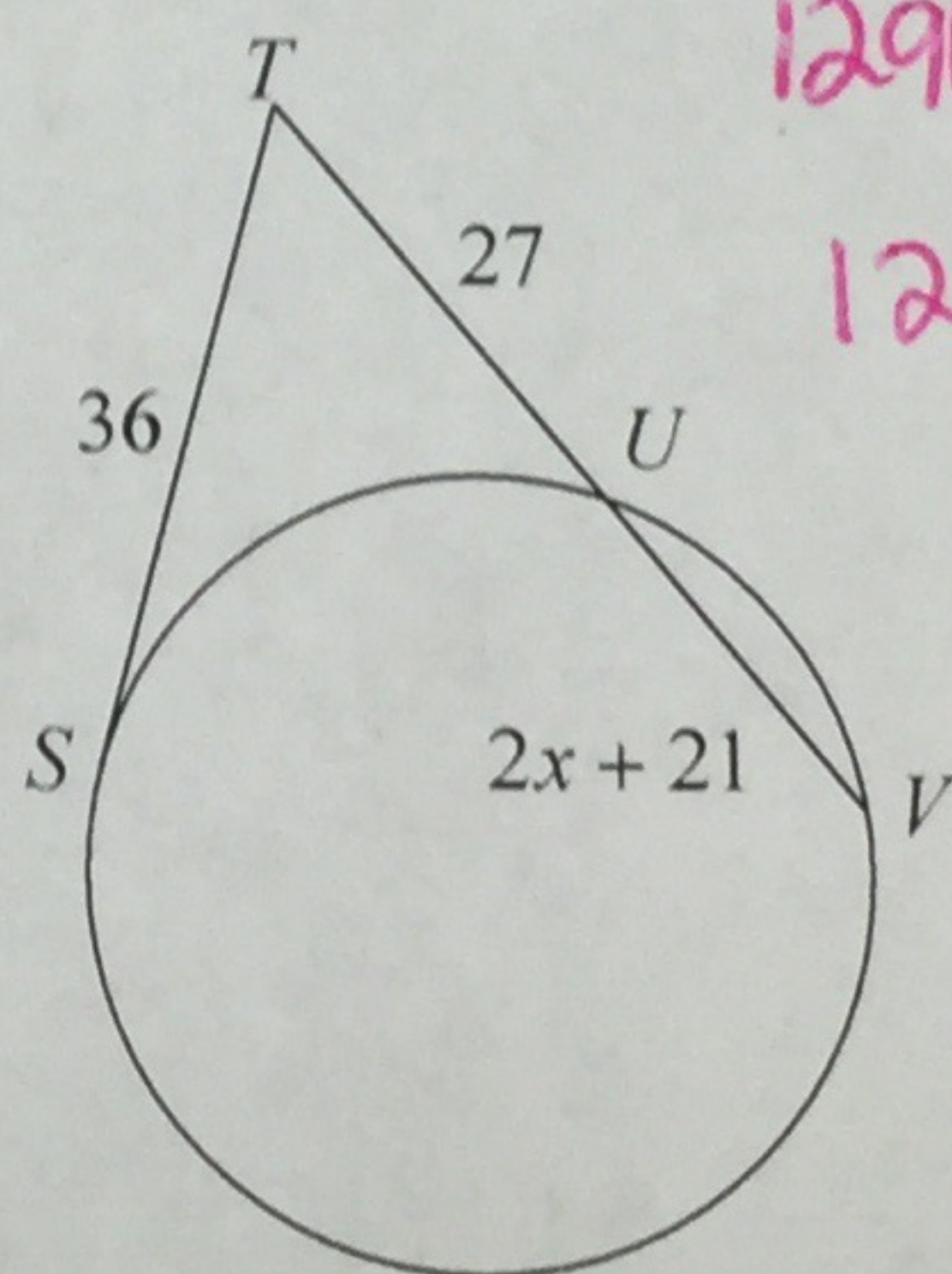
$$14x = 70$$

$$x = 5$$

$$VU = 2(5) - 1$$

$$VU = 9$$

47) Find UV



$$36^2 = 27(27+2x+21)$$

$$1296 = 27(48+2x)$$

$$1296 = 1296 + 54x$$

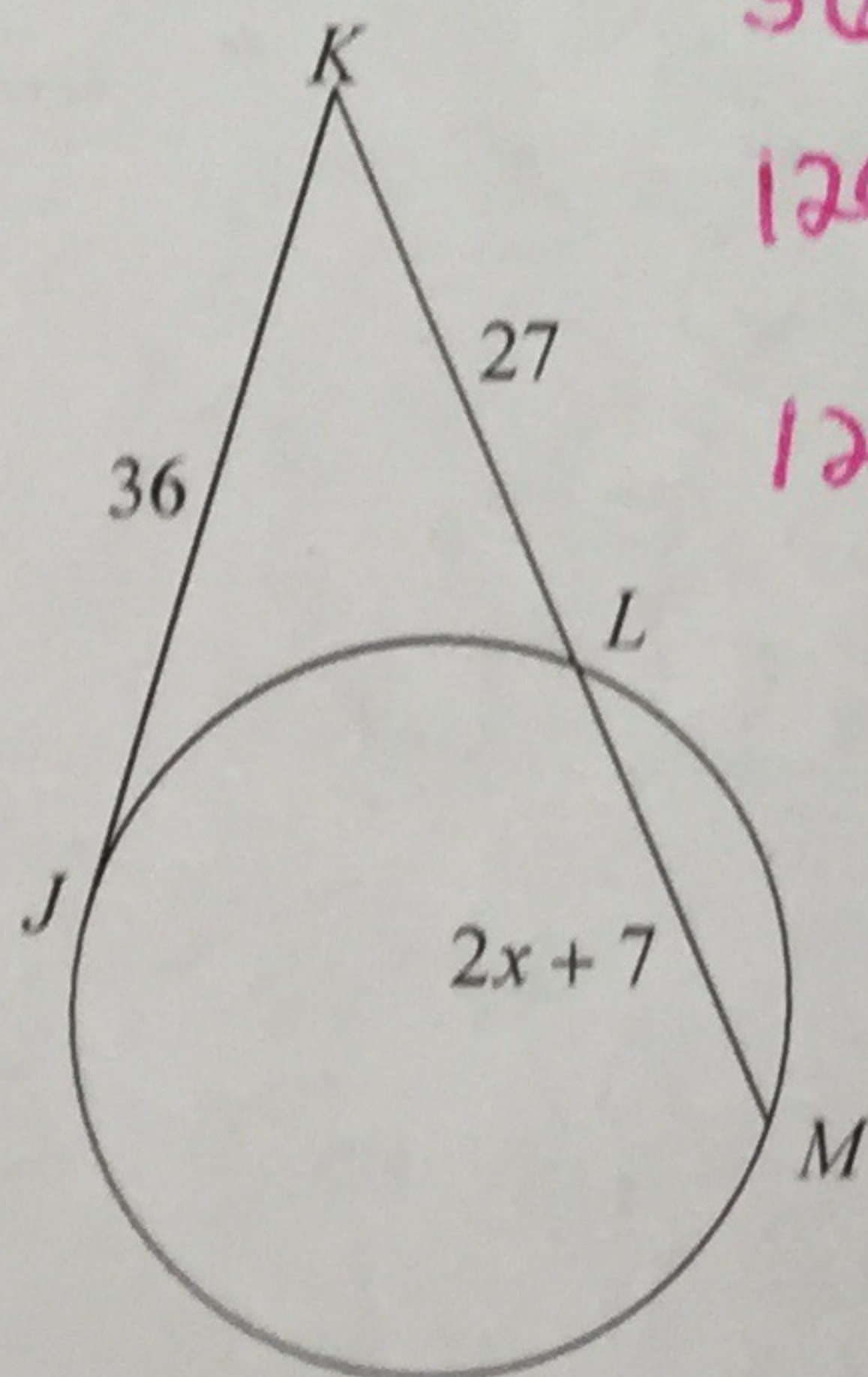
$$0 = 54x$$

$$0 = x$$

$$UV = 2(0) + 21$$

$$UV = 21$$

48) Find LM



$$36^2 = 27(27+2x+7)$$

$$1296 = 27(34+2x)$$

$$1296 = 918 + 54x$$

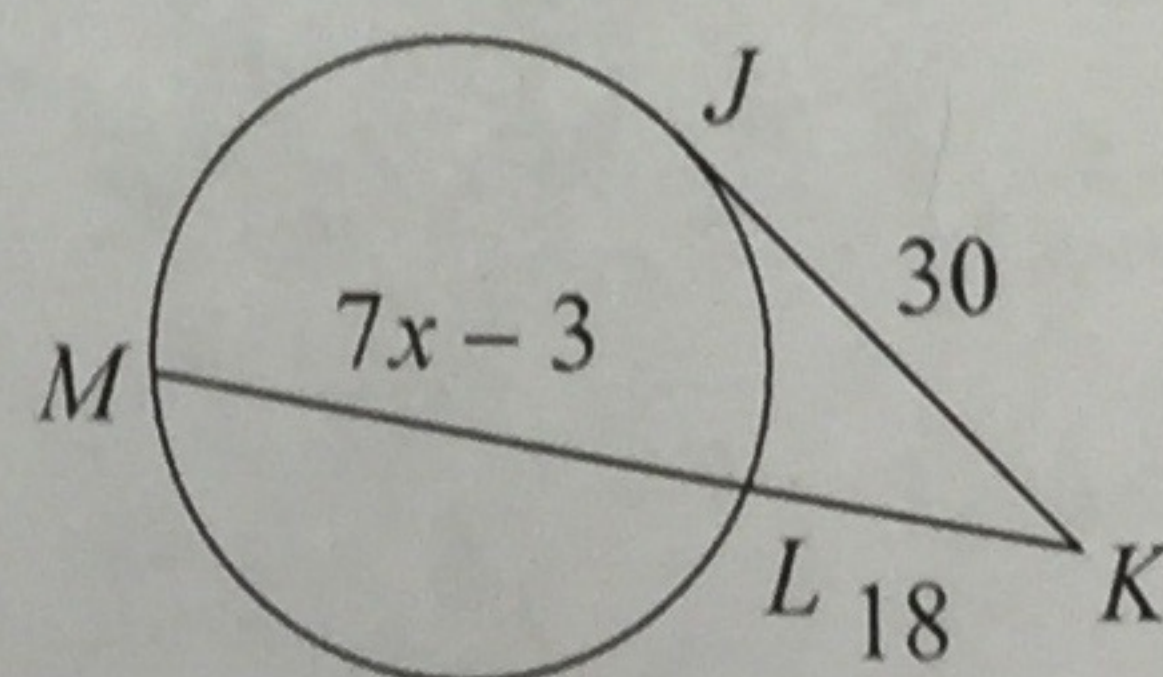
$$378 = 54x$$

$$7 = x$$

$$LM = 2(7) + 7$$

$$LM = 21$$

49) Find LM



$$30^2 = 18(18+7x-3)$$

$$900 = 18(15+7x)$$

$$900 = 270 + 126x$$

$$630 = 126x$$

$$5 = x$$

$$LM = 7(5) - 3$$

$$LM = 32$$