(#1)

GEOMETRY CP SPRING REVIEW

7-1

Solve each proportion by using cross products.

5. $\frac{9}{28} = \frac{x}{84}$ X=27

6. $\frac{3}{18} = \frac{4x}{7}$ $X = \frac{7}{24}$

7. $\frac{x+5}{7} = \frac{x+3}{5}$ X=2

Use a proportion to solve each problem.

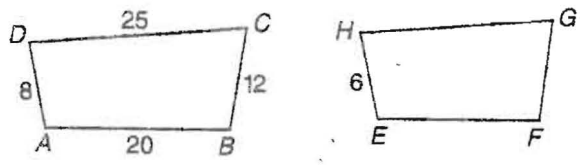
8. If two cassettes cost \$14.50, how much will 15 cassettes cost?

\$108.75

9. If a 6-foot post casts a shadow that is 8 feet long, how tall is an antenna that casts a 60-foot shadow at the same time? 45ft.

7-2

If quadrilateral ABCD is similar to quadrilateral EFGH, find each of the following.



1. scale factor of *ABCD* to *EFGH* $\frac{4}{3}$

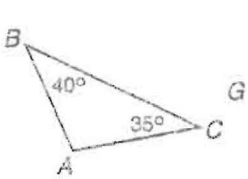
2. *EF* 15

3. *FG* 9

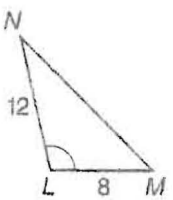
4. *GH* 18.75

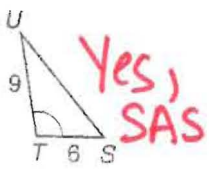
7-3

Determine whether each pair of triangles is similar. Give a reason for your answer.

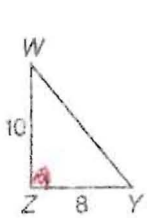
1. 

Yes, AA~

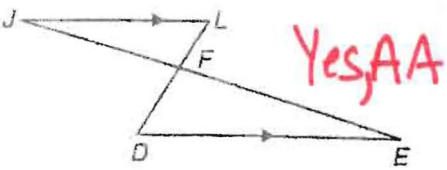
2. 



Yes, SAS

3. 

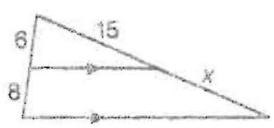
NO

4. 

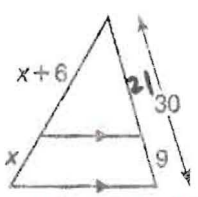
Yes, AA

7-4

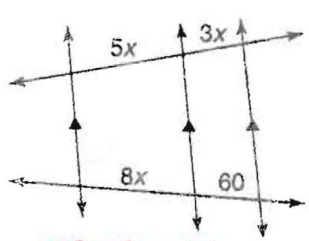
Find the value of x.

1. 

X=20

2. 

X=4.5

3. 

X=12.5

DO NOT WRITE ON REVIEW SHEETS

7-4

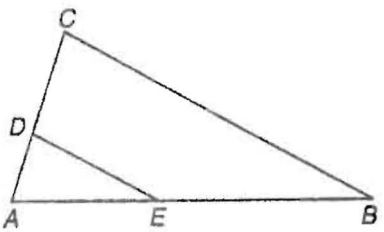
In △ABC, find x so that $\overline{DE} \parallel \overline{CB}$.

4. $DC = 18, AD = 6,$
$AE = 12, EB = x - 3$

X = 39

5. $AC = 30, AD = 10,$
$AE = 22, EB = x + 4$

X = 40



8-1

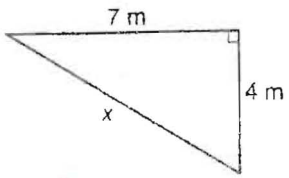
Find the geometric mean between each pair of numbers.

1. 3 and 10

2. 10 and 20

Find the values of x and y. Round to the nearest tenth.

4.

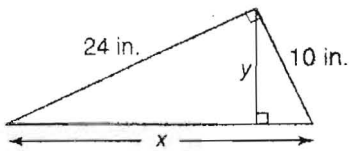


8.1 m

5.

X = 20
y = 9

6.



X = 26
y = 9.2

8-2

Determine if the given measures are measures of the sides of a right triangle.

7. 18, 24, 30

Yes

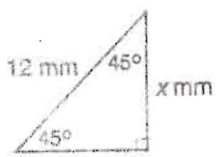
8. 20, 30, 40

NO

8-3

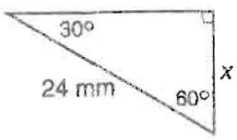
Find the value of x.

1.



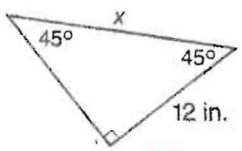
X = 6√2

2.



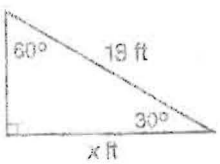
X = 12

3.



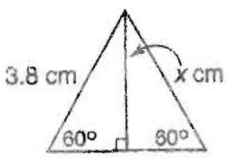
X = 12√2

4.



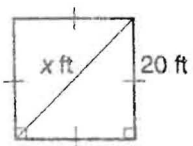
X = 9√3

5.



X = 1.9√3

6.



X = 20√2

Geometry CP Spring Review

8-4

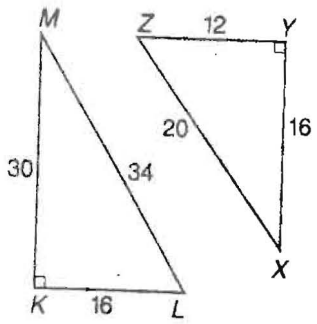
Find the indicated trigonometric ratio as a fraction and as a decimal rounded to the nearest ten-thousandth.

1. $\sin M$ $\frac{8}{17} \approx 0.4706$

2. $\cos Z$ $\frac{3}{5} \approx 0.6000$

3. $\tan L$ $\frac{15}{8} \approx 1.8750$

4. $\sin X$ $\frac{3}{5} \approx 0.6000$



Find the value of each ratio to the nearest ten-thousandth.

7. $\sin 12°$ 0.2079

8. $\cos 32°$ 0.8480

8-5

Solve each problem. Round measures of segments to the nearest hundredth and measures of angles to the nearest degree.

1. From the top of a tower, the angle of depression to a stake on the ground is 72°. The top of the tower is 80 feet above ground. How far is the stake from the foot of the tower?

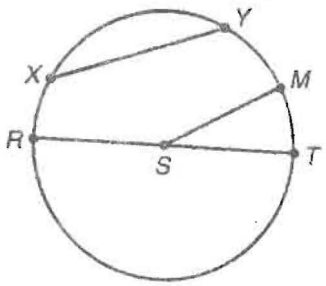
   25.99 ft

2. A tree 40 feet high casts a shadow 58 feet long. Find the measure of the angle of elevation of the sun.

   35°

10-1

Refer to ⊙S for Exercises 1–6.



1. Name the center of ⊙S. S

2. Name three radii of ⊙S. $\overline{SR}, \overline{SM}, \overline{ST}$

3. Name a diameter. $\overline{RT}$

4. Name a chord. $\overline{XY}$ or $\overline{RT}$

5. If $RT = 8.2$, find SM. 4.1

6. Is $\overline{SR} \cong \overline{SM}$? Explain.

   Yes, they are both radii

In Exercises 7–10, the radius, diameter, or circumference of a circle is given. Find the other measures to the nearest tenth.

7. $r = 7, d = \underline{?}, C = \underline{?}$ 14, 44

8. $d = 32.4, r = \underline{?}, C = \underline{?}$ 16.2, 101.8

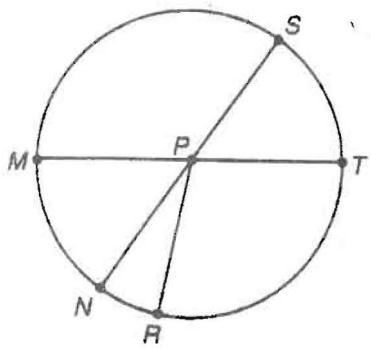
9. $C = 116.5, d = \underline{?}, r = \underline{?}$ 37.1, 18.6

Do Not Write on Review Sheets

10-2

Refer to ⊙P for Exercises 1–8. If $\overline{SN}$ and $\overline{MT}$ are diameters with m∠SPT = 51 and m∠NPR = 29, determine whether each arc is a minor arc, a major arc, or a semicircle. Then find the degree measure of each arc.

1. $m\overset{\frown}{NR}$ minor, 29
2. $m\overset{\frown}{ST}$ minor, 51
3. $m\overset{\frown}{TSR}$ major, 260
4. $m\overset{\frown}{MST}$ semicircle, 180



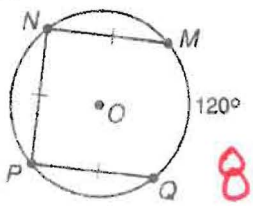
If MT = 15, find the length of each arc. Round to the nearest tenth.

5. $\overset{\frown}{NR}$ 3.8
6. $\overset{\frown}{ST}$ 6.7
7. $\overset{\frown}{TSR}$ 34.0
8. $\overset{\frown}{MST}$ 23.6

10-3

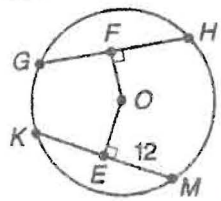
In each circle, O is the center. Find each measure.

1. $m\overset{\frown}{NP}$



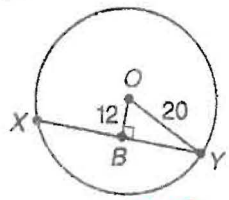
80

2. KM



24

3. XY



32

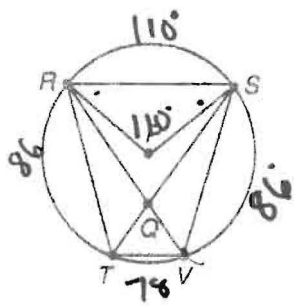
4. Suppose a chord is 20 inches long and is 24 inches from the center of the circle. Find the length of the radius.

26 in

5. Suppose a chord of a circle is 5 inches from the center and is 24 inches long. Find the length of the radius.

13 in

10-4



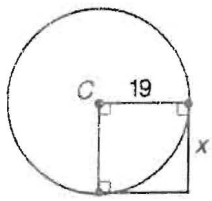
In ⊙P, $m\overset{\frown}{SV}$ = 86 and m∠RPS = 110. Find each measure.

4. $m\angle PRS$ 35
5. $m\overset{\frown}{RT}$ 86
6. $m\angle RVT$ 43
7. $m\angle SVT$ 98
8. $m\angle TQV$ 94
9. $m\angle RQT$ 86
10. $m\angle QRT$ 39
11. $m\overset{\frown}{RS}$ 110

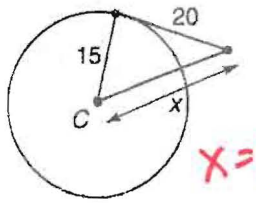
Geom CP Spring Review — Do Not Write on Sheet

10-5

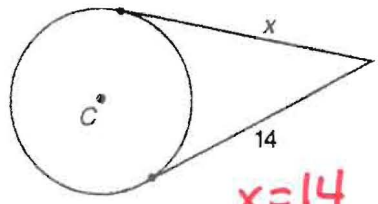
For each ⊙C, find the value of x. Assume that segments that appear to be tangent are tangent.

1. 

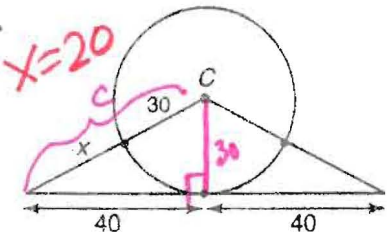
x=19

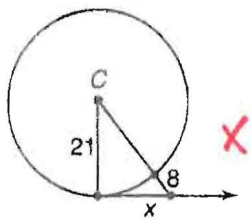
2. 

x=25

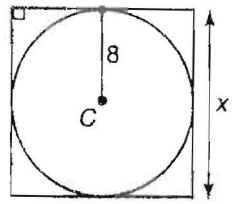
3. 

x=14

4. x=20


5. 

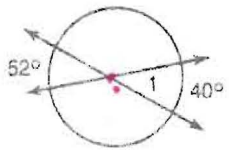
x=20

6. 

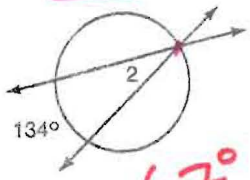
x=16

10-6

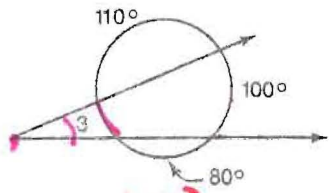
Find the measure of each numbered angle.

1. 

46°

2. 

67°

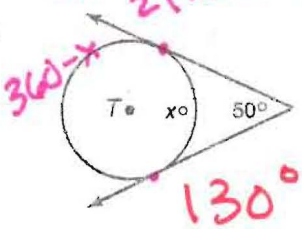
3. 

15°

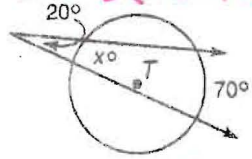
Given ⊙T, find the value of x.

4. $100 = \frac{1}{2}(130+x)$


70°

5. $50 = \frac{1}{2}(360-x-x)$


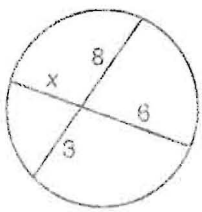
130°

6. $20 = \frac{1}{2}(70-x)$


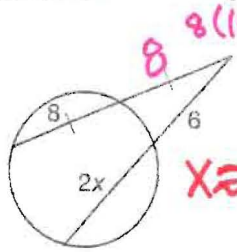
30°

10-7

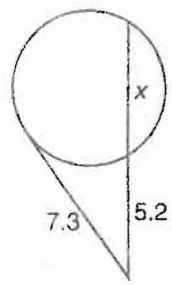
Find the value of x to the nearest tenth. Assume segments that appear tangent to be tangent.

1. 

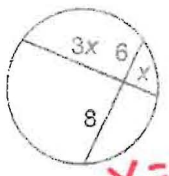
x=4

2. $8(16) = 6(6+2x)$


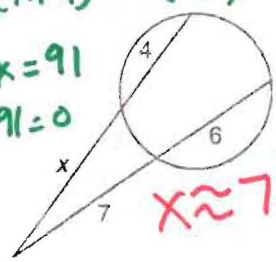
x≈7.7

3. $5.2(5.2+x) = (7.3)^2$


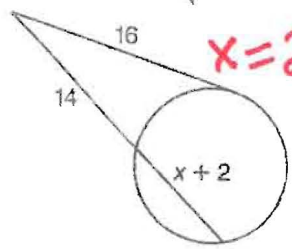
x≈5.0

4. 

x=4

5. $x(x+4) = 7(13)$
$x^2+4x = 91$
$x^2+4x-91 = 0$


x≈7.75

6. 

x=2.3

#5

$(x-h)^2+(y-k)^2=r^2$ (h,k) = center, r = radius

10-8

Determine the coordinates of the center and the measure of the radius for each circle whose equation is given.

1. $(x - 7.2)^2 + (y + 3.4)^2 = 14.44$

C = (7.2, −3.4), r = 3.8

2. $\left(x + \frac{1}{2}\right)^2 + (y - 2)^2 = \frac{16}{25}$

$C = \left(-\frac{1}{2}, 2\right)$, $r = \frac{4}{5}$

3. $(x - 6)^2 + (y - 3)^2 - 25 = 0$

C = (6, 3) r = 5

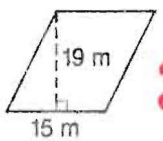
Graph each circle whose equation is given. Label the center and measure of the radius on each graph.

4. $(x - 2.5)^2 + (y + 1)^2 = 12.25$

C = (2.5, −1), r = 3.5

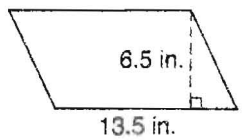
Find the area of each figure.

1.



285 m^2

2.

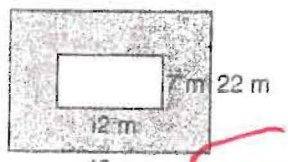


87.75 in^2

11-1

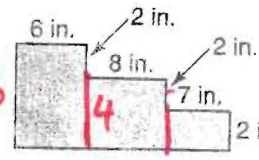
Find the area of each shaded region. Assume that angles that appear to be right are right angles.

4.



Big □ − small □ = 48(22) − 12(7) = 972 m^2

5.

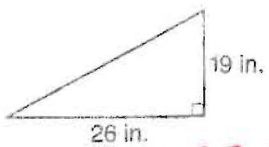


36 + 32 + 14 = 82 in^2

Find the area of each figure. $\frac{1}{2}(b_1+b_2)(h)$ $A=\frac{1}{2}d_1d_2$

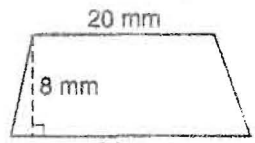
11-2

1.



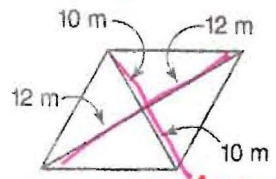
247 in^2

2.



176 mm^2

3.

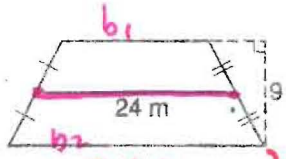


240 m^2

4.

96 m^2

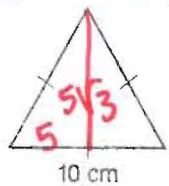
5.



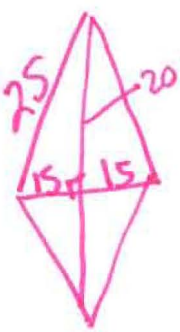
A = mh

216 m^2

6.



43.30 cm^2



8. A rhombus has a perimeter of 100 meters and a diagonal 30 meters long. Find the area of the rhombus.

$\frac{1}{2}(40)(30)$

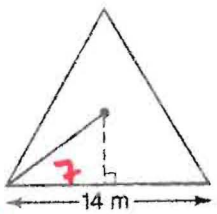
600 m^2

Geom CP Spring Review

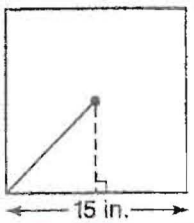
Do Not Write on Sheet

11-3

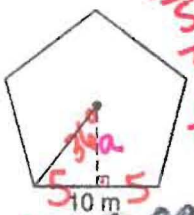
Find the apothem, area, and perimeter of each regular polygon. Round your answers to the nearest tenth.

1. 

$a = \frac{7\sqrt{3}}{3}$ $P = 42$ $A = 84.87$

2. 

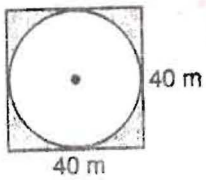
$a = 7.5$ $P = 60$ $A = 225$

3. 

$\frac{360}{5} = 72$ $72/2 = 36$ $\tan 36 = \frac{5}{a}$

$a = 6.8819$ $P = 50$ $A = 172.0$

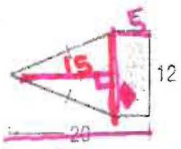
Find the area of each shaded region. Assume that all polygons are regular. Round your answers to the nearest tenth.

6. 

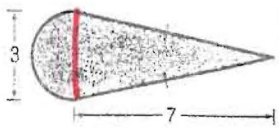
$A = \square - \bigcirc$
$= 40^2 - \pi(20)^2$
$= 343.4\ m^2$

11-4

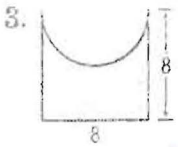
Find the area of each figure. Round to the nearest tenth if necessary.

1. 

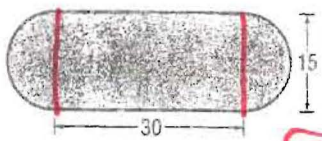
$A = \square + \triangle$
$= 5(12) + \frac{1}{2}(12)(15)$
$= 60 + 90$
$A = 150$

2. 

$A = \triangle + \frown$
$= \frac{1}{2}(3)(7) + \frac{1}{2}\pi(1.5)^2$
$= 10.5 + 1.125\pi$
$A = 14.03$

3. 

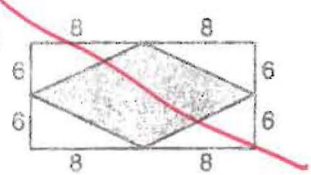
$A = \square - \cup$
$= 8(8) - \frac{1}{2}\pi(4^2)$
$= 64 - 8\pi$
$A = 38.9$

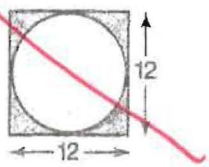
4. 

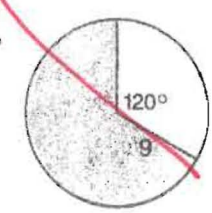
$A = \square + \oplus$
$= 30(15) + \pi(7.5)^2$
$A = 626.7$

11-5

Find the probability that a point chosen at random in each figure lies in the shaded region. Round your answers to the nearest hundredth.

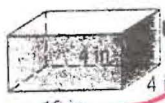
5. 

6. 

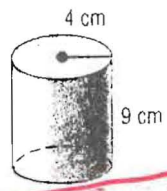
7. 

CHAP 12&13

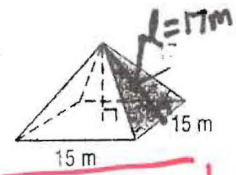
Find the surface area of each solid. Round to the nearest tenth.

1. 

192 in²

2. 

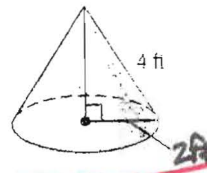
326.7 cm²

3. 

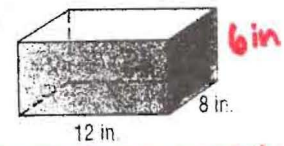
735m²

4. 

72m²

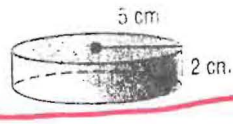
5. 

37.7ft²

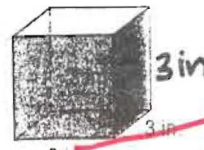
6. 

432 in²

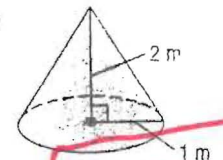
Find the volume of each solid. Round to the nearest tenth.

7. 

157.1 cm³

8. 

27 in³

9. 

2.09 m³

Ch.9

1. Find the image of $\overline{UV}$ with $U(-3, 5)$ and $V(0, 8)$ under the translation $(x, y) \rightarrow (x + 2, y - 5)$.

U'(-1, 0) V'(2, 3)

2. Find the image of $\overline{CD}$ with $C(0, 4)$ and $D(3, 4)$ under a rotation of 90° counterclockwise about the origin.

C'(-4, 0) D'(-4, 3)

3. Find the coordinates of Q'' if $\triangle OPQ$ with $O(4, 2)$, $P(5, 0)$, and $Q(1, -2)$ is reflected in the x-axis and then in the y-axis.

Q''(-1, 2)

4. Determine whether a regular 15-gon tessellates the plane. Explain.

No.

5. If $CD = 3$ and $C''D'' = 8$, is the dilation an *enlargement*, *reduction*, or *congruence transformation*?

enlargement.