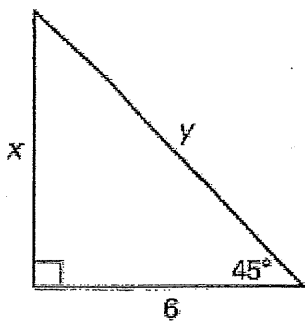
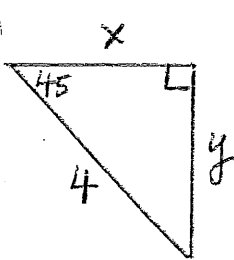


Find the value of each variable. Write answers in simplest radical form.

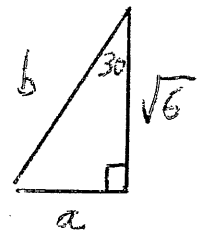
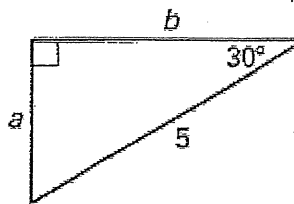
1)



1b)

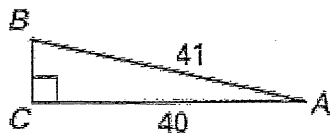


2)



Find the sin, cos, and tangent of the below angles of the triangle below: (This means find the RATIO, or fractions)

3)



Sin A =

Cos A =

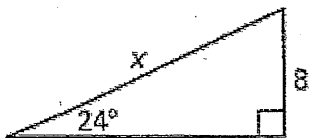
Tan B =

Sin B =

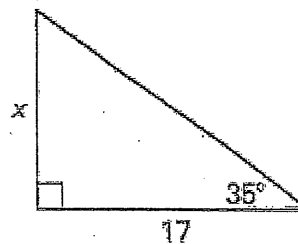
Tan A =

Use trigonometric ratios to find the value of each variable. Round decimals to the nearest tenth.

4)

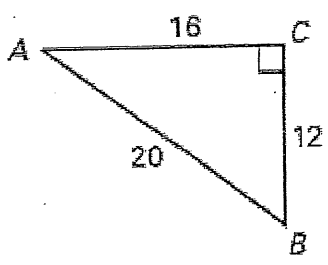


5)



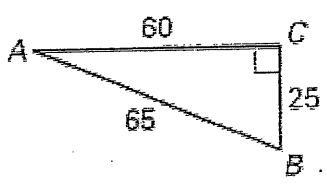
Find the values of the angle measures A and B.

6)



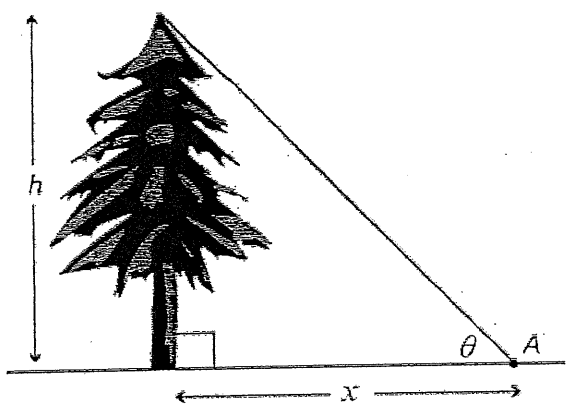
$m\angle A = \underline{\hspace{2cm}}$ $m\angle B = \underline{\hspace{2cm}}$

7)



$m\angle A = \underline{\hspace{2cm}}$ $m\angle B = \underline{\hspace{2cm}}$

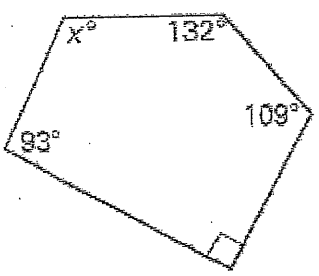
8)



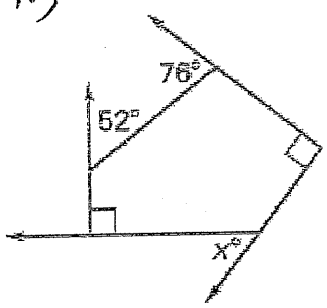
John wants to measure the height of a tree. He walks exactly 100 feet from the base of the tree and looks up. The angle from the ground to the top of the tree is 33° . How tall is the tree?

Find the value of x.

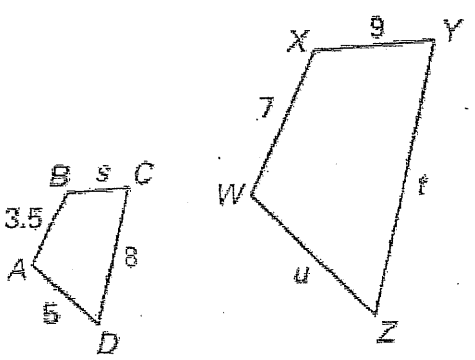
9)



10)



11)



Given: $ABCD \sim WXYZ$

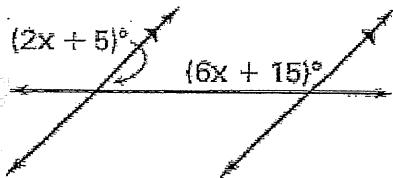
11a) Find the ratio of polygon ABCD to WXYZ

11b) Find the scale factor of polygon ABCD to WXYZ

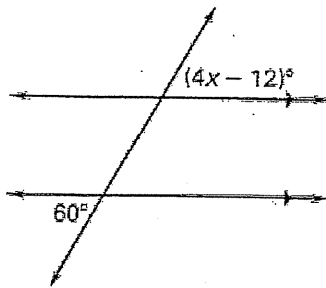
11c) Find the value of t

Find the value of x

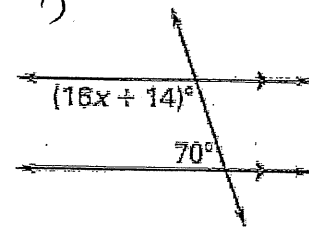
12)



13)

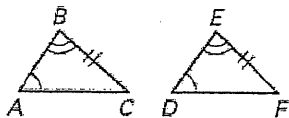


14)

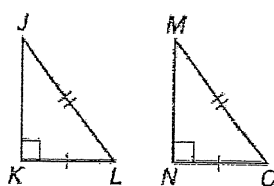


State the theorem used to prove the triangles are congruent.

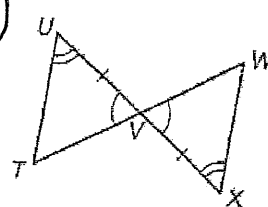
15)



16)



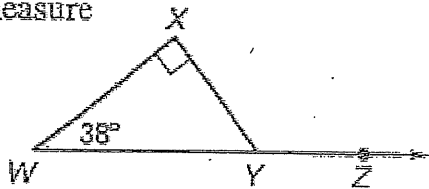
17)



18)

What is the measure of $\angle XYZ$?

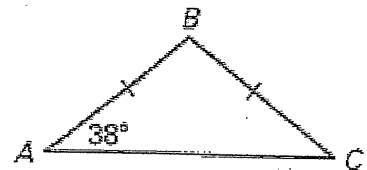
- (A) 142°
- (B) 128°
- (C) 118°
- (D) 132°
- (E) Cannot be determined



19)

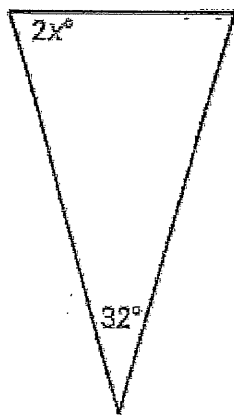
What is the measure of $\angle B$?

- (A) 90°
- (B) 38°
- (C) 104°
- (D) 52°
- (E) Cannot be determined



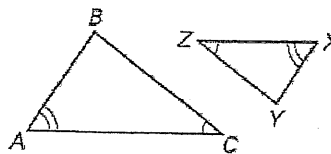
20)

In the isosceles triangle below, find the value of x



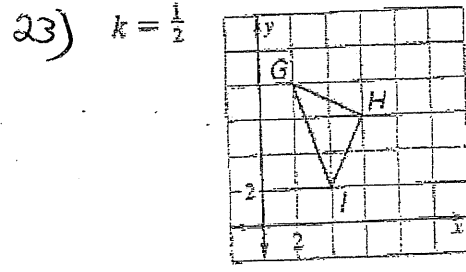
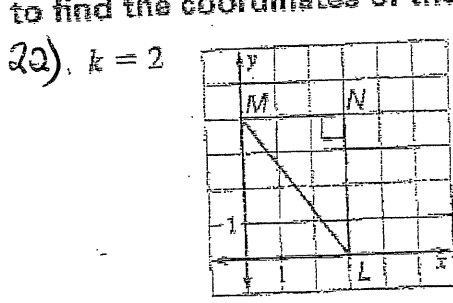
21)

The triangles shown are similar. Which of the following is *not* a correct statement?

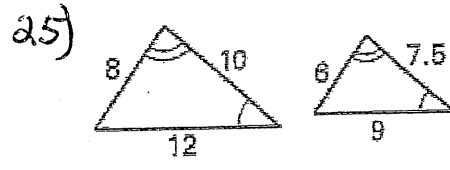
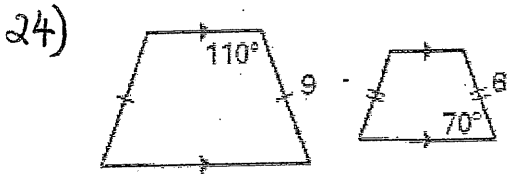


- (A) $\frac{AB}{XY} = \frac{BC}{YZ}$
- (B) $\triangle ABC \sim \triangle XYZ$
- (C) $\frac{BC}{YZ} = \frac{AC}{XY}$
- (D) $\frac{CA}{ZX} = \frac{BA}{YX}$
- (E) $\frac{AC}{XZ} = \frac{AB}{XY}$

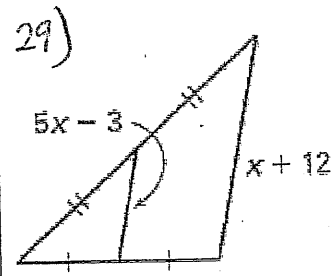
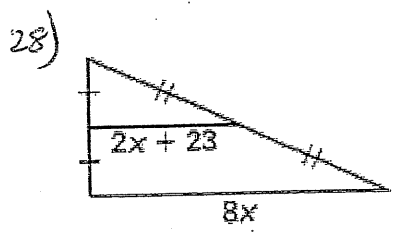
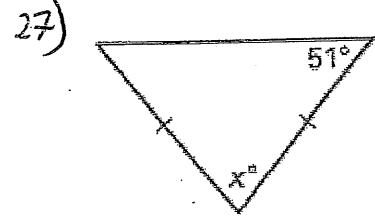
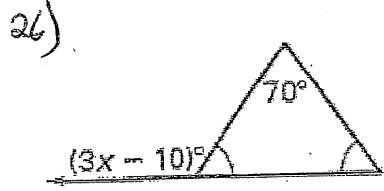
Use the origin as the center of the dilation and the given scale factor to find the coordinates of the vertices of the image of the polygon.



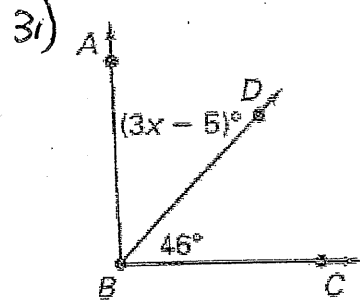
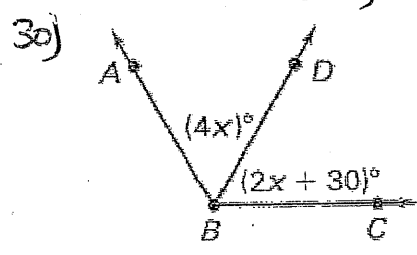
The two polygons are similar. Find the scale factor.



Find x:



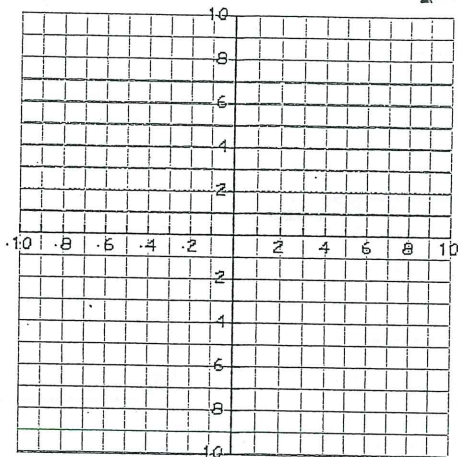
In Questions 30, 31, \overrightarrow{BD} bisects $\angle ABC$. Find the value of x.



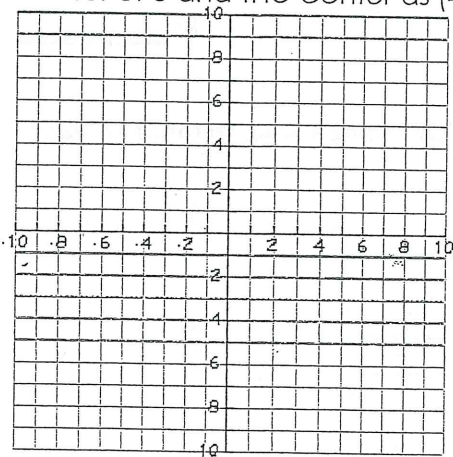
CCGPS Analytic Geometry
Unit 2B Practice

Part 1: Dilations

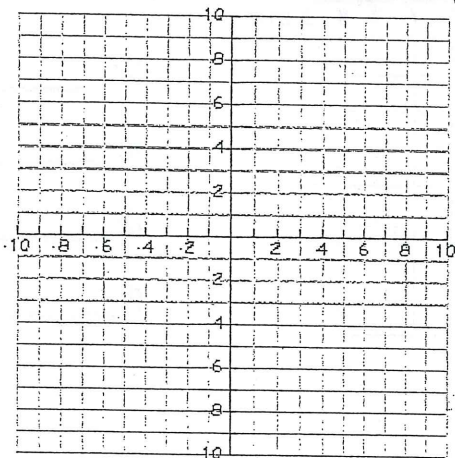
1. Plot the triangle A (4, 3) B(1, 1) C(-1, 5). Then graph the dilated image of ABC using the scale factor of 2 and the center as ~~(7, 9)~~ (2, 5)



2. Plot the triangle A (6, -4) B(4, -2) C(1, -6). Then graph the dilated image of ABC using the scale factor of 3 and the center as (4, -5).

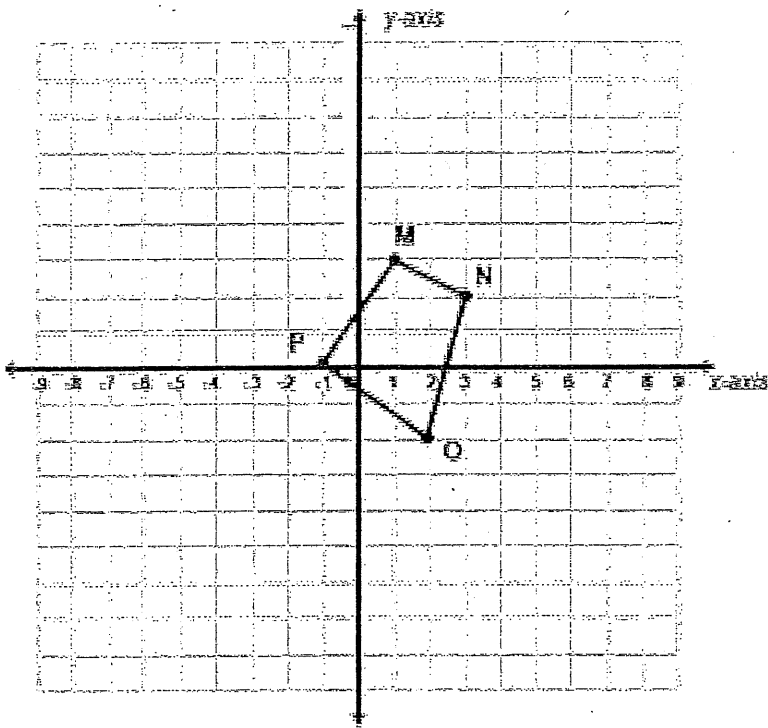


3. Plot the triangle A (0, 2) B(8, -4) C(-8, -8). Then graph the dilated image of ABC using the scale factor of 1/2 and the center as (-4, 10).



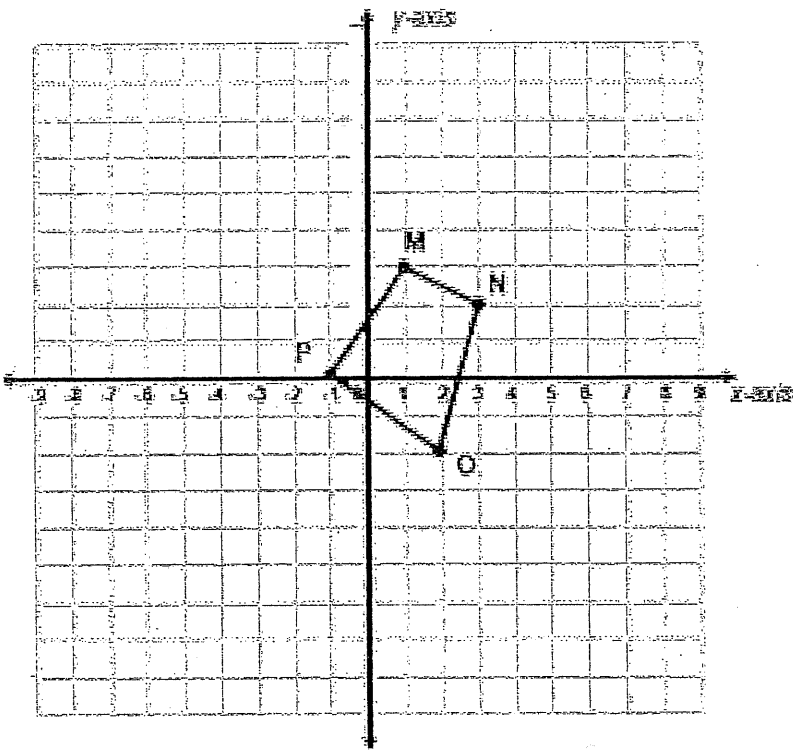
6

4) Graph a dilated image of quadrilateral MNOP using a scale factor of 2 and (2,4) as the center of dilation.



M: _____ M': _____
 N: _____ N': _____
 O: _____ O': _____
 P: _____ P': _____

5) Graph a dilated image of quadrilateral MNOP using a scale factor of 1/2 and using the origin as the center of dilation.



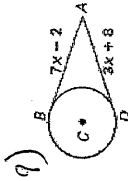
M: _____ M': _____
 N: _____ N': _____
 O: _____ O': _____
 P: _____ P': _____

Match the notation with the term that best describes it.

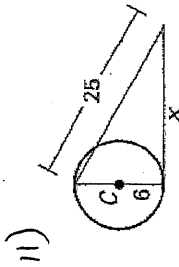
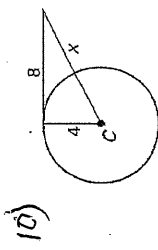
- 1) D _____
- 2) \overline{FA} _____
- 3) \overline{CD} _____
- 4) \overline{AB} _____
- 5) C _____
- 6) \overline{AD} _____
- 7) \overline{AB} _____
- 8) \overline{DE} _____

- A. Center
- B. Chord
- C. Diameter
- D. Radius
- E. Point of tangency
- F. Common external tangent
- G. Common internal tangent
- H. Secant

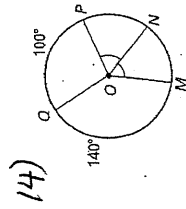
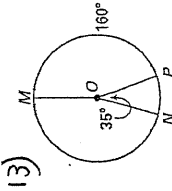
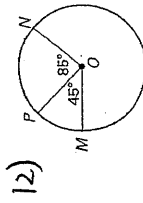
\overline{AE} and \overline{AD} are tangent to $\odot C$. Find the value of x .



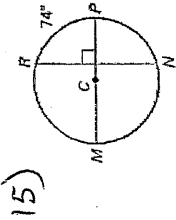
For each $\odot C$ find the value of x . Assume that segments that appear to be tangent are tangent.



Find the measure of \widehat{MN} .

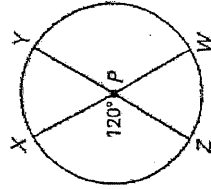


Find the measure of \widehat{MN} .

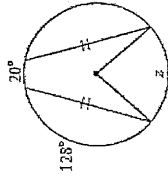


Find the measure of the arc of $\odot P$. (L.E.S.S.O.R: 10,2)

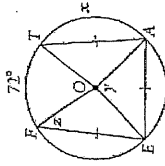
- 16) \widehat{XY}
- 17) \widehat{ZW}
- 18) \widehat{YW}
- 19) \widehat{YZ}
- 20) \widehat{YW}
- 21) \widehat{ZW}



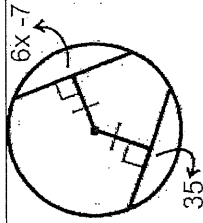
22) Find z



23) Find y and x

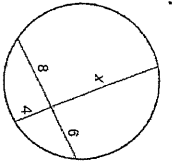


24) Find x

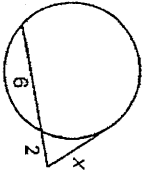


Find the value of x

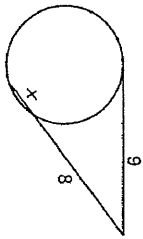
1.



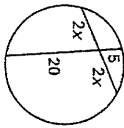
2.



3.

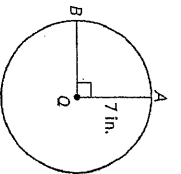


4.

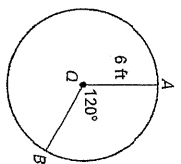


Find the length of \overline{AB}

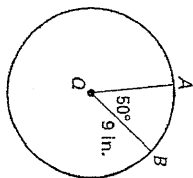
9.



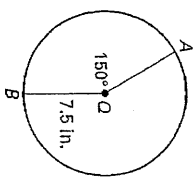
10.



11.

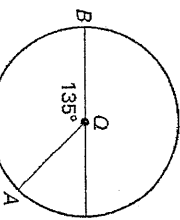


12.



13. Find the indicated measure:

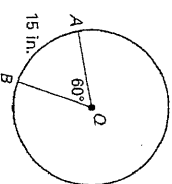
Length of \overline{AB}



$d = 20$ cm

14. Find the indicated measure:

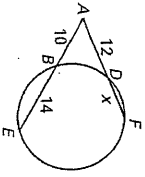
Circumference



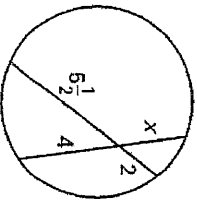
7.

Use the diagram to find the value of x .

- (A) 8
- (B) 12
- (C) 14
- (D) 10
- (E) 16

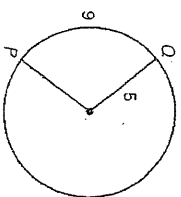


8.



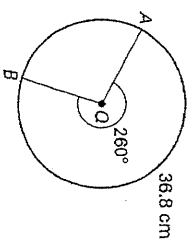
15. Find the indicated measure:

$m\widehat{PQ}$



16. Find the indicated measure:

Radius



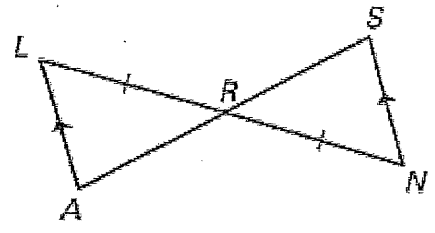
Unit 2A PROOFS – Clearly work through each proof.

Reason Bank: Corresponding angles Postulate, Reflexive Property of Congruence, Corresponding angles Postulate Converse, Transitive Property of Congruence, Congruent Angles, Alternate Interior Angles theorem, Exterior Angles Theorem, CPCTC (corresponding parts of congruent triangles are congruent), SSS, SAS, HL, AAS, ASA, Given

1.

Given: $\overline{LA} \parallel \overline{SN}, \overline{LR} \cong \overline{NR}$

Prove: $\triangle LAR \cong \triangle NSR$



Statements	Reasons
1. $\overline{LA} \parallel \overline{SN}$	1. _____
2. $\angle L \cong \angle N$	2. _____
3. $\overline{LR} \cong \overline{NR}$	3. _____
4. $\angle LRA \cong \angle NRS$	4. _____
5. $\triangle LAR \cong \triangle NSR$	5. _____

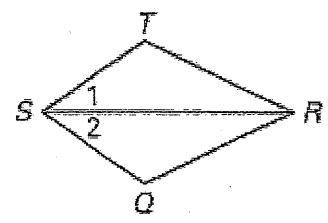
2.

Write a two-column proof.

Given: \overrightarrow{SR} bisects $\angle TSQ$,

$\angle T \cong \angle Q$

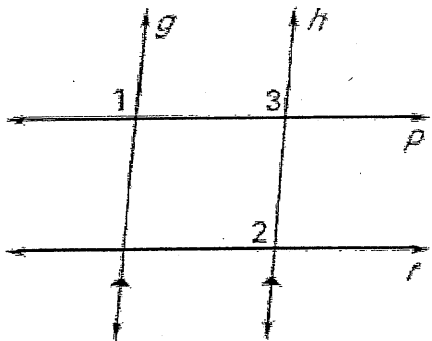
Prove: $\triangle RTS \cong \triangle RQS$



Statements	Reasons
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

3. Complete the following proof with reasons from the reason bank.

Reason Bank: Corresponding angles Postulate, Reflexive Property of Congruence, Corresponding angles Postulate Converse, Transitive Property of Congruence, Congruent Angles, Alternate Interior Angles theorem, Exterior Angles Theorem, CPCTC (corresponding parts of congruent triangles are congruent), SSS, SAS, HL, AAS, ASA, Given

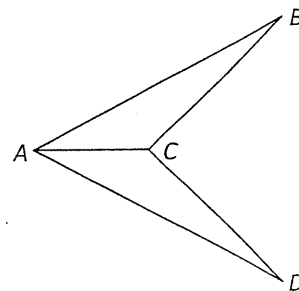


3. GIVEN: $g \parallel h, \angle 1 \cong \angle 2$
 PROVE: $p \parallel r$

Statements	Reasons
1. $g \parallel h, \angle 1 \cong \angle 2$	1.
2. $\angle 1 \cong \angle 3$	2.
3. $\angle 2 \cong \angle 3$	3.
4. $p \parallel r$	4.

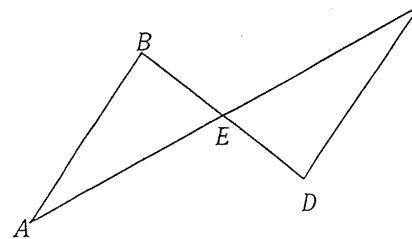
4) Given: $\overline{AB} \cong \overline{AD}, \overline{BC} \cong \overline{DC}$
 Prove: $\triangle ABC \cong \triangle ADC$

Statements	Reasons
1. $\overline{AB} \cong \overline{AD}, \overline{BC} \cong \overline{DC}$	1. Given
2.	2.
3. $\triangle ABC \cong \triangle ADC$	3.



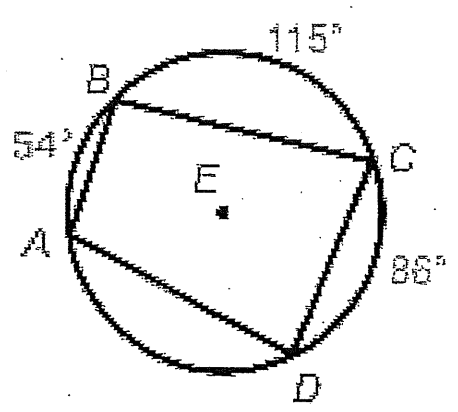
5) Given: $\overline{AB} \cong \overline{CD}, \angle A \cong \angle C$
 Prove: $\overline{BE} \cong \overline{DE}$

Statements	Reasons
1. $\overline{AB} \cong \overline{CD}, \angle A \cong \angle C$	1. Given
2.	2.
3. $\triangle ABE \cong \triangle CDE$	3.
4. $\overline{BE} \cong \overline{DE}$	4.



Chapter 3A Review

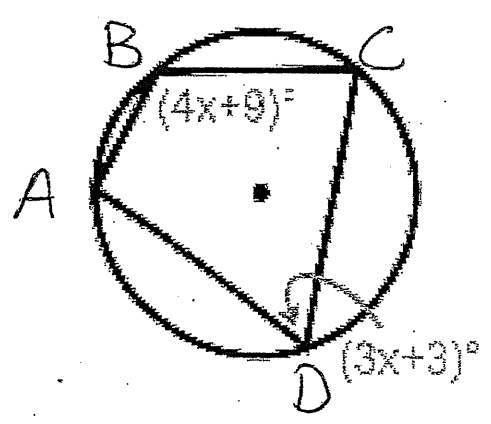
1. Quadrilateral ABCD is inscribed in $\odot E$



Find:

- a) $m\angle A =$
- b) $m\angle B =$
- c) $m\angle C =$
- d) $m\angle D =$

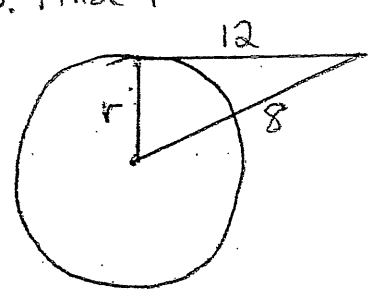
2.



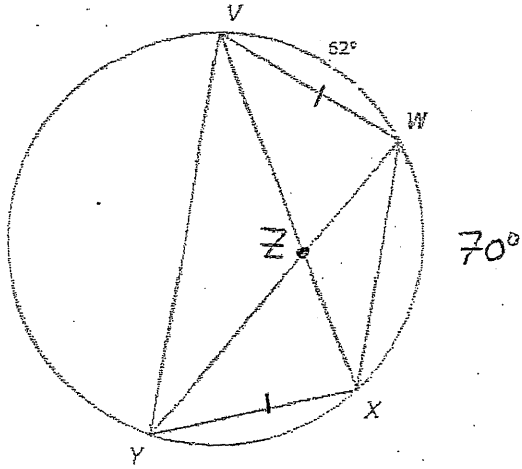
Find:

- a) $m\angle B$
- b) $m\angle D$
- c) Find $m\widehat{ADC}$
- d) Find $m\widehat{ABC}$

3. Find r :



3. Fill in all arcs and angle measures.

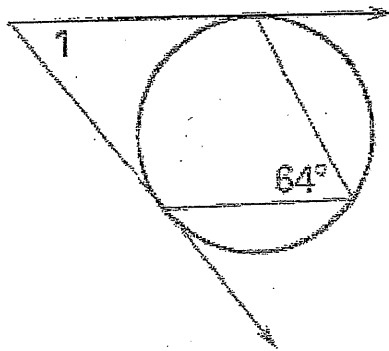


a. Find $m\angle VZW$ _____

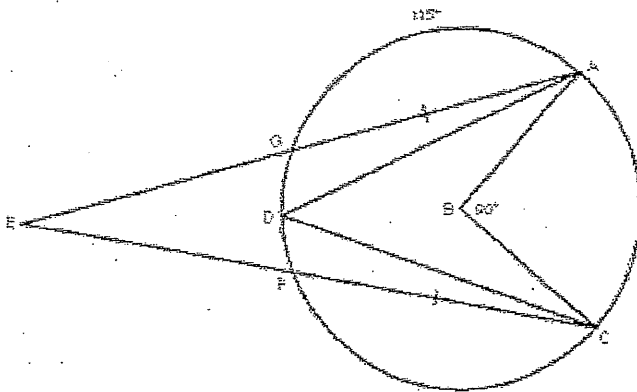
b. Find $m\widehat{WX}$ 70°

c. Find $m\widehat{VY}$ _____

d. Find $m\angle WYX$ _____



Find $m\angle 1$ _____

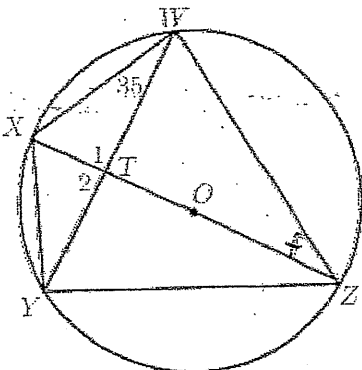


$m\widehat{FG}$ = _____

$m\angle AEC$ = _____

$m\angle ADC$ = _____

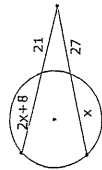
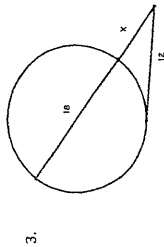
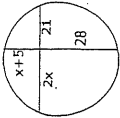
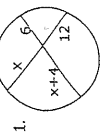
Given circle with centre O, $\widehat{WT} = \widehat{TY}$ and $\widehat{XVT} = 35^\circ$



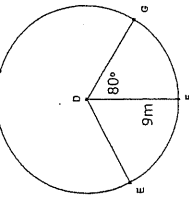
$m\angle 1$ = _____ $m\angle 2$ = _____

$m\angle 3$ = _____ $m\angle WYZ$ = _____

Find the value of x in the figures below.



In Circle D, $\angle EDF \cong \angle FDG$. Find the indicated measures.



6. Arc length of \widehat{EFG} .

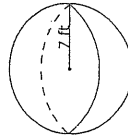
7. Area of circle D

8. Area of the sector formed by $\angle FDG$

9. Find the diameter of a circle with a central angle of 51° and the area of its sector 51 in^2 . Round to the thousandths.

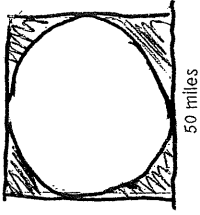
10. What is the degree measure of an arc of a circle with a radius of 4 cm and an arc length of 3π cm?

11. Calculate the surface area and volume of the sphere.



12. Determine the following info. Leave all answers in exact.

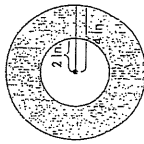
- Radius of circle
- Circumference of circle
- Area of square
- Area of circle
- Area of shaded region

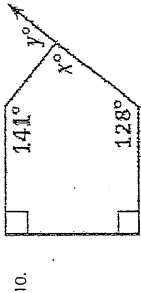
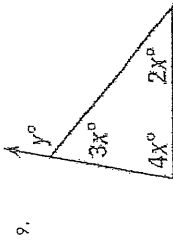
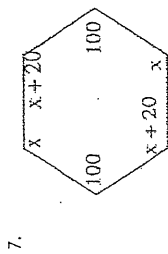
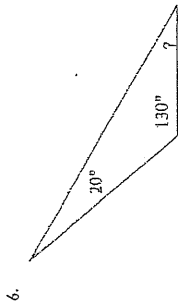
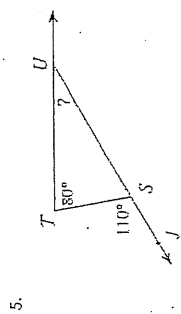


13. The surface area of Earth is approximately $510,100,000 \text{ km}^2$. Calculate the diameter of Earth. Round to the thousandths.

14. The volume of an exercise ball is 4500π inches³. Find the radius.

15. Find the area of the shaded region





11. Find the sum of the interior angles for the following polygons. Then find the measure of one interior angle, assuming they are all regular.

- a. 20-gon
- b. 24-gon
- c. 67-gon
- d. 32-gon

Radicals and Rational Exponents: Review

Simplify the expression. Write all answers in simplest radical form where necessary.

1. $x^{2/3} \cdot x^{2/4}$

2. $(3x^{1/6})^3$

3. $(4x^{1/5})^{3/2}$

4. $6x^{1/4} \cdot 3x^{3/4}$

5. $\frac{(4x^4)^3}{(2x^3y)^{-1}}$

6. $6(x^{1/3}y^4)^{-3} \cdot (x^{1/4}y^3)^4$

7. $(3^{2/3})^{1/2}$

8. $\sqrt{-40}$

9. $\sqrt[5]{-32}$

10. $\sqrt{-\frac{18}{25}}$

16 Write the following in standard form

11. $(4 - 5i) + 2(3 + 2i)$

12. $(3 + 2i) - (5 - 6i)$

13. $(-3 + 4i)(3 - 3i)$

14. $3(2 - 6i)(2 + 6i)$

15. $\frac{2 + 5i}{2 - 2i}$

16. $\frac{3 - 2i}{5 + 4i}$
