



**CURRICULUM AND INSTRUCTIONAL SERVICES  
MATHEMATICS COMMON REVIEW  
Geometry (321012)**

Part 1:

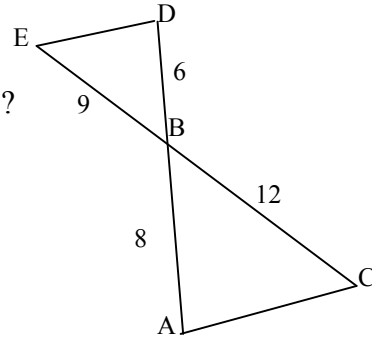
1. Find the geometric mean of 15 and 5.

- a.  $5\sqrt{3}$
- b. 10
- c. 3
- d. 75

1. \_\_\_\_\_

2. Which Similarity Theorem can be used to show  $\triangle ABC \sim \triangle DBE$ ?

- a. SSS
- b. AA
- c. SAS
- d. not similar



2. \_\_\_\_\_

3. Find the scale factor of  $\triangle ABC$  to  $\triangle DBE$ .

- a.  $\frac{8}{9}$
- b.  $\frac{1}{2}$
- c.  $\frac{4}{3}$
- d.  $\frac{3}{4}$

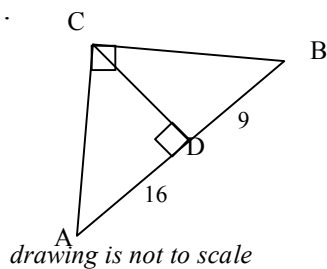
3. \_\_\_\_\_

4. How long is a string reaching from the top of a 15-ft pole to a point 13 feet from the base of the pole?

- a.  $\sqrt{394}$  feet
- b.  $2\sqrt{101}$  feet
- c.  $\sqrt{66}$  feet
- d.  $2\sqrt{14}$  feet

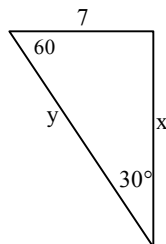
4. \_\_\_\_\_

5. Find the length of  $\overline{CD}$ .



5. \_\_\_\_\_

6. Find the value of  $x$  and  $y$ .



6.  $x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

7. Which quadrilateral has all sides congruent and its diagonals congruent?

- a. rhombus
- b. parallelogram
- c. rectangle
- d. square

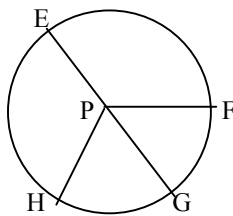
7. \_\_\_\_\_

8. Which statement is not always true? 8. \_\_\_\_\_
- The base angles of an isosceles trapezoid are congruent.
  - The midsegment of a trapezoid is parallel to the bases.
  - The bases of a trapezoid are parallel.
  - The legs of a trapezoid are congruent.

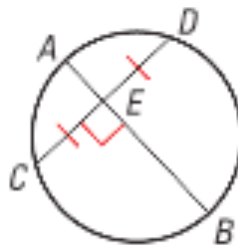
9. The measures of the interior angles of a convex quadrilateral are  $x$ ,  $2x$ ,  $3x$ , and  $4x$ . What is the measure of the largest interior angle? 9. \_\_\_\_\_
- $120^\circ$
  - $144^\circ$
  - $180^\circ$
  - $360^\circ$

10. In parallelogram WXYZ,  $WX = 26$  inches and  $XY = 30$  inches. What is the perimeter of WXYZ? 10. \_\_\_\_\_

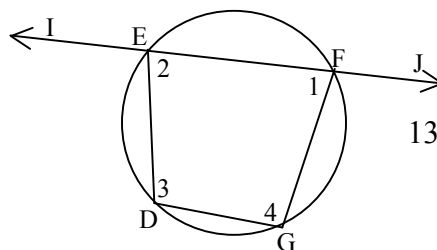
11. Which arc of  $\odot P$  is a semicircle? 11. \_\_\_\_\_
- $\widehat{FEH}$
  - $\widehat{EFG}$
  - $\widehat{FH}$
  - $\widehat{EH}$



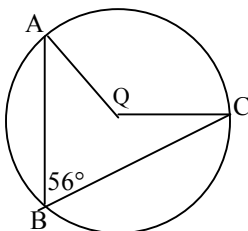
12. Choose the true statement that refers to the figure. 12. \_\_\_\_\_
- $\widehat{CBD}$  is a minor arc.
  - $\widehat{CAD}$  is a major arc.
  - $\overline{AB}$  is a diameter.
  - $\widehat{AD} \cong \widehat{BC}$



13. Given:  $m\angle IED = 94^\circ$  and  $m\angle JFG = 92^\circ$ . Find the measures of angles 1, 2, 3, 4. (not drawn to scale) 13. \_\_\_\_\_
- $m\angle 1 = 86^\circ$ ,  $m\angle 2 = 88^\circ$ ,  $m\angle 3 = 92^\circ$ ,  $m\angle 4 = 94^\circ$
  - $m\angle 1 = 88^\circ$ ,  $m\angle 2 = 86^\circ$ ,  $m\angle 3 = 94^\circ$ ,  $m\angle 4 = 92^\circ$
  - $m\angle 1 = 88^\circ$ ,  $m\angle 2 = 86^\circ$ ,  $m\angle 3 = 92^\circ$ ,  $m\angle 4 = 94^\circ$
  - $m\angle 1 = 86^\circ$ ,  $m\angle 2 = 88^\circ$ ,  $m\angle 3 = 94^\circ$ ,  $m\angle 4 = 92^\circ$



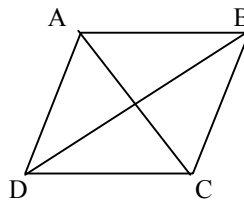
14. Given:  $\odot Q$  and  $m\angle B = 56^\circ$ . Find  $m\widehat{AC}$ . 14. \_\_\_\_\_



15. In rhombus  $ABCD$ ,  $AB=20$  and  $AC = 32$ .  
Find the area of the rhombus.

15. \_\_\_\_\_

- a. 379.3
- b. 384
- c. 506
- d. 499.6



16. A regular hexagon has an apothem of 2 and a side length of  $\frac{4\sqrt{3}}{3}$ .  
Find its area.

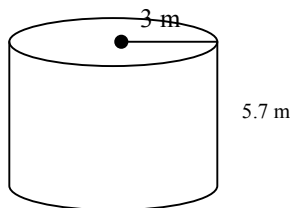
16. \_\_\_\_\_

- a.  $8\sqrt{3}$  square units
- b.  $4\pi$  square units
- c.  $4\sqrt{3}$  square units
- d.  $\frac{16\pi}{3}$  square units

17. Find the surface area of the cylinder to the nearest square unit. Use  $\pi \approx 3.14$ .

17. \_\_\_\_\_

- a.  $82 \text{ m}^2$
- b.  $26 \text{ m}^2$
- c.  $17 \text{ m}^2$
- d.  $164 \text{ m}^2$



18. Find the surface area of the right cone below to two decimal places.

18. \_\_\_\_\_

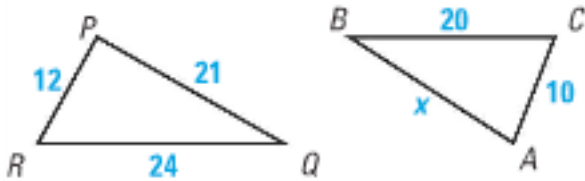


Part 2: Show all work. Diagrams are not drawn to scale.

**Find the value of  $x$ .**

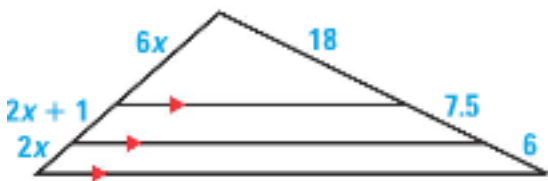
19.  $\triangle PQR \sim \triangle ABC$

(2pt) 19. \_\_\_\_\_



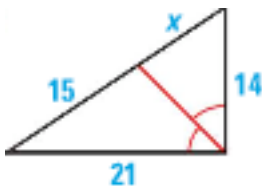
20.

(2pt) 20. \_\_\_\_\_



21.

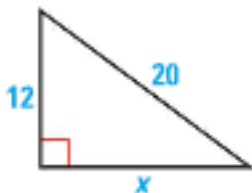
(2pt) 21. \_\_\_\_\_



**Find the value of  $x$ . Give all answers in simplest radical form.**

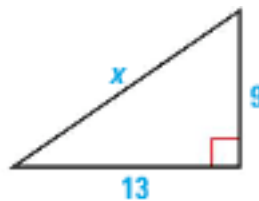
22.

(2pt) 22. \_\_\_\_\_



23.

(2pt) 23. \_\_\_\_\_

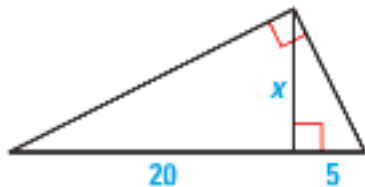


24. Find the area of an isosceles triangle with side lengths 10 cm, 13 cm, and 13 cm.

(2pt) 24. \_\_\_\_\_  $\text{cm}^2$

**Find the value of  $x$ .**

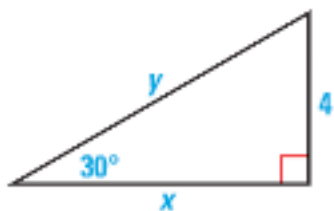
25.



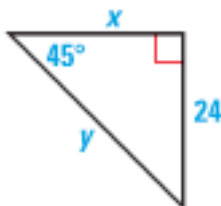
(2pt) 25. \_\_\_\_\_

**Find the value of  $x$  and  $y$ . Give all answers in simplest radical form.**

26.



27.



(2pt) 26.  $x =$  \_\_\_\_\_

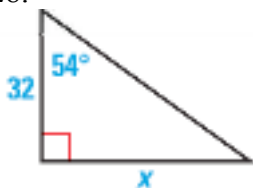
(2pt)  $y =$  \_\_\_\_\_

(2pt) 27.  $x =$  \_\_\_\_\_

(2pt)  $y =$  \_\_\_\_\_

**Find the value of  $x$ . Round to the nearest tenth.**

28.



29.

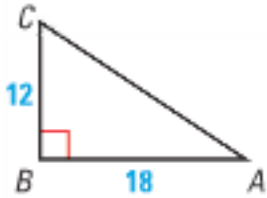


(2pt) 28. \_\_\_\_\_

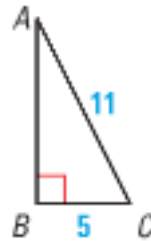
(2pt) 29. \_\_\_\_\_

Use a calculator to approximate the measure of  $\angle A$  to the nearest tenth of a degree.

30.



31.



(2pt) 30. \_\_\_\_\_

(2pt) 31. \_\_\_\_\_

32. A slide 5.2 m long makes an angle of  $32^\circ$  with the ground.

How high is the top of the slide above the ground? (*Hint: Draw a diagram.*)

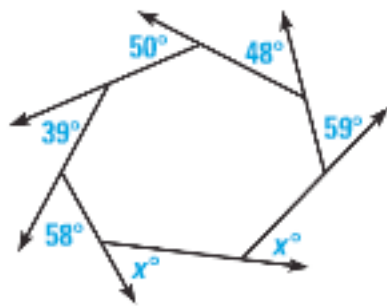
(2 pt) 32. \_\_\_\_\_

33. Find the sum of the measures of the interior angles of a convex hexagon.

(2pt) 33. \_\_\_\_\_

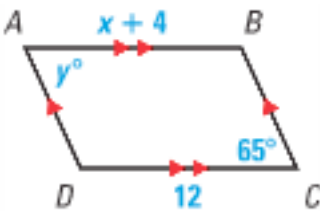
34. Find the value of  $x$ .

(2pt) 34. \_\_\_\_\_



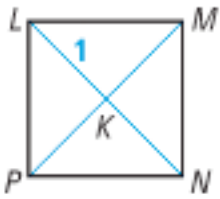
35. Find the values of  $x$  and  $y$  that make the figure a parallelogram.

(2pt) 35.  $x =$  \_\_\_\_\_



(2pt)  $y =$  \_\_\_\_\_

The diagonals of square LMNP intersect at K. Given that  $LK=1$ , find the indicated measures.



(2 pt) 36.  $m\angle LPK =$  \_\_\_\_\_

(2 pt) 37.  $MP =$  \_\_\_\_\_

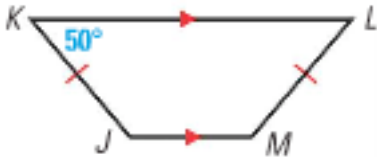
(2 pt) 38.  $LP =$  \_\_\_\_\_

39. The diagonals of a rhombus are 6 inches and 8 inches.  
Find the length of a side. (*Hint:* Draw and label a diagram).

(2pt) 39. \_\_\_\_\_

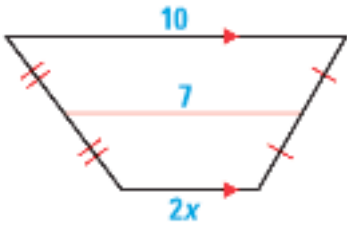
40. Find the measure of angle M.

(2 pt) 40. \_\_\_\_\_



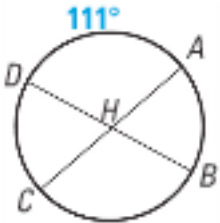
41. Find the value of x.

(2 pt) 41. \_\_\_\_\_



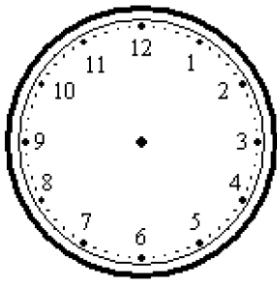
42. Find the measure of  $\angle AHB$  in  $\odot H$ .

(2pt) 42. \_\_\_\_\_



43. How many degrees does a minute hand move in 35 minutes?  
 Explain your answer.

(2pt) 43. \_\_\_\_\_

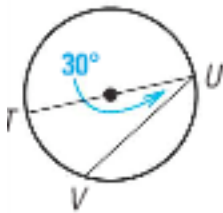


(2pt) Explain: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

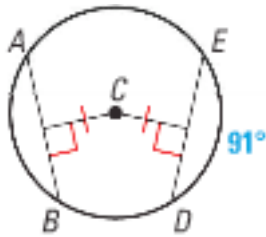
44. If  $m\angle TUV = 30^\circ$ , find  $m\widehat{VU}$

(2pt) 44. \_\_\_\_\_



45. If  $m\widehat{ED} = 91^\circ$  in  $\odot C$ , find  $m\widehat{AB}$

(1pt) 45. \_\_\_\_\_

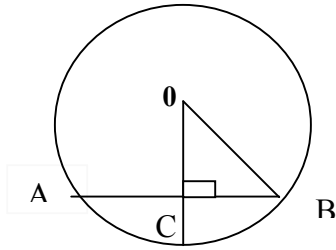


Explain your answer (1 pt) \_\_\_\_\_

\_\_\_\_\_

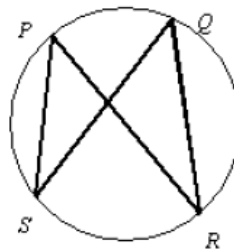
46. Given  $\odot O$  with radius 13 and  $OC = 12$ . Find  $AB$ .

(2pt) 46. \_\_\_\_\_



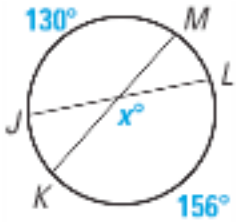
47. Find  $m\angle SPR$  if  $m\angle SPR = 2x + 8$  and  $m\angle SQR = 3x - 24$ .

(2pt) 47. \_\_\_\_\_

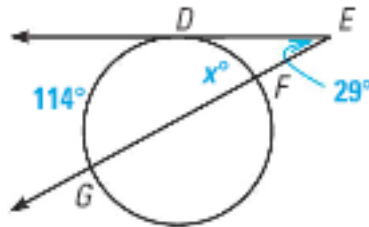


**Find the value of  $x$ .**

48.



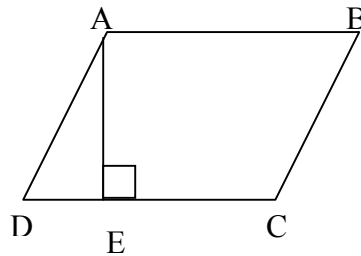
49.



(2pt) 48. \_\_\_\_\_

(2pt) 49. \_\_\_\_\_

50.  $ABCD$  is a parallelogram with  $AB=14$ ,  $DE=3$ , and  $AD=5$ .



(2pt) 50 a. \_\_\_\_\_

a. Find the height.

(2pt) b. \_\_\_\_\_ sq. units

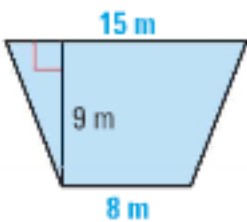
b. Find the area of  $\square ABCD$ .

51. Your neighbor recently put a new garden in their rectangular yard. The yard has a length of 45 feet and a width of 30 feet. The garden is in the shape of a rhombus. The diagonals of the rhombus are 25 feet and 18 feet long.

- a. Sketch and label a diagram showing the yard and garden.
  
  
  
  
  
  
  
  
  
  
- b. Find the area of the lawn before the garden was put in.
  
  
  
  
  
  
  
  
  
  
- c. Find the area of the garden.
  
  
  
  
  
  
  
  
  
  
- d. Find the area of the lawn remaining after the garden was installed.
  
  
  
  
  
  
  
  
  
  
- e. Flowers for the garden cost \$6.00 per square foot. How much will it cost to completely cover the garden with flowers?

52. Find the area of trapezoid.

(2 pt) 52. \_\_\_\_\_ sq m

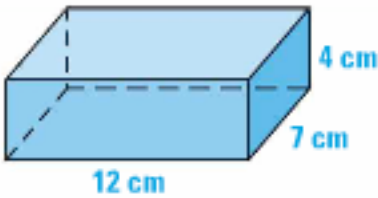


53. A floor tile is in the shape of a regular hexagon and has a perimeter of 18 inches. Find the side length and area of the tile.

53. side = \_\_\_\_\_ in.  
A = \_\_\_\_\_ sq. in.

54. Find the volume of the right prism below.

(2 pt) 54.  $V =$  \_\_\_\_\_ cu. cm.



55. The pyramid below has a square base and a slant height of 7 ft. Find its surface area.

(2 pt) 55. SA = \_\_\_\_\_ sq. cm.



56. Find the volume of a sphere that has a diameter of 5 centimeters. Express your answer in terms of  $\pi$ .

(2 pt) 56.  $V =$  \_\_\_\_\_ cu. cm