Name_____HR_____

Geometry CP: Final Exam Review

- **Be Organized.** Successful studying begins with getting organized. Bring this packet with you to class every day. Gather up all of your old quiz and test reviews and USE THEM to help when you get stuck on a problem.

- **Attempt all assigned problems.** We have learned all of the content necessary to complete this review. If you don't remember how to do something, use your resources to help!

  What if you don't know how to start/complete a problem?
  - *Draw & label a picture using the given info and key words.*
  - *Look back in your notes for definitions, formulas, or theorems you can use to help.*
  - *Look back at your quiz/test reviews for similar problems. How did you get started/what did you look for there?*

- **Stay on schedule.** Do the problems that are assigned every night and check your answers. Come to class prepared to ask about any questions you have.

- **Highlight/Make notes as you work.** Identify key…
  formulas definitions theorems diagrams questions

- **Take this seriously.** The grade you earn on this exam is worth *20% of your semester grade*.

Final Review Assignments

All assignments are due the following school day.

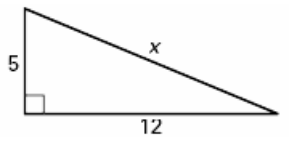
Date Assigned	Assignment	Completed?
Friday 5/29	Chapter 11 – odds	
Monday 6/1	Chapter 10 – odds	
Tuesday 6/2	Chapter 8 – odds	
Wednesday 6/3	Chapter 7 – odds	
Thursday 6/4	**In Class: *4th Quarter Exam*** HW: Chapter 12 – odds	
Friday 6/5	Review difficult problems & formulas!	

1st Hour Exam:	Monday, June 8th	8:00 a.m.
2nd Hour Exam:	Monday, June 8th	9:45 a.m.
3rd Hour Exam:	Tuesday, June 9th	8:00 a.m.
4th Hour Exam:	Tuesday, June 9th	9:45 a.m.
5th Hour Exam:	Wednesday, June 10th	8:00 a.m.
6th Hour Exam:	Wednesday, June 10th	9:45 a.m.
7th Hour Exam:	Thursday, June 11th	8:00 a.m.

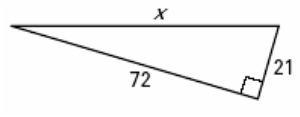
Geometry CP **Chapter 7 Final Exam Review**

Find the EXACT unknown side length. Write your answer in simplest radical form.

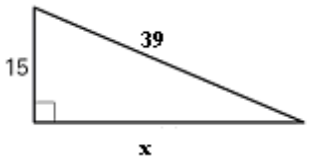
1.



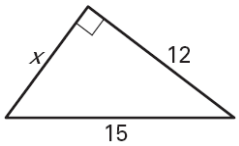
2.



3.



4.



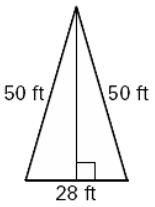
Find the indicated value. Write your answer in simplest radical form.

5. Randy made a ramp for his dog to get into his truck. The ramp is 6 ft long and the bed of the truck is 3 ft above the ground. Approximately how far from the back of the truck does the ramp touch the ground?

A. 3 ft. **B.** 4 ft. **C.** 5.2 ft. **D.** 6.7 ft.

6. Find the area of the isosceles triangle with side lengths 20 in., 20 in., and 24 in.

7. Find the altitude. Then find the area of the isosceles triangle.



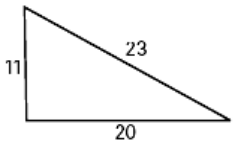
Classify the triangle by its side lengths as *acute, right, or obtuse*.

8. 7, 11, and $3\sqrt{17}$

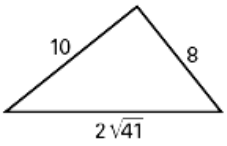
9. $\frac{3}{2}$, 2, and $\frac{5}{2}$

10. 4.1, 9.2, and 5.6

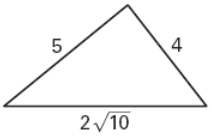
11.



12.



13.



Find the indicated values. Leave answers in simplest radical form.

14. An isosceles triangle has a perimeter of 32 and a base of 12. Find the exact length of the altitude to the base.

15. An isosceles triangle has a perimeter of 36 and a base of 10. Find the exact length of the altitude to the base.

16. A square has a perimeter of 80 ft. Find the exact length of its diagonal.

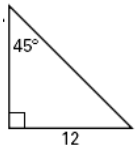
17. A square has a diagonal whose measure is $12\sqrt{2}$ ft. Find its perimeter.

18. A rectangle has an area of 120 feet and a width of 15 feet. Find the exact length of its diagonal.

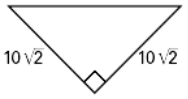
19. A rectangle has an area of 24 feet and a width of 6 feet. Find the exact length of its diagonal.

Using special right triangles, find the values of the variable(s). Write your answer(s) in simplest radical form.

20. Find the value of the hypotenuse.



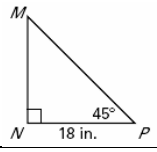
21. Find the value of the hypotenuse.



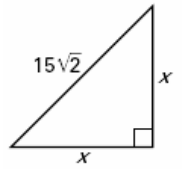
22. ΔMNP is a right triangle. Find the length of $\overline{MP}$.

A. 18 in. **B.** $9\sqrt{2}$ in.

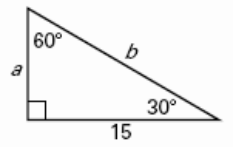
C. 36 in. **D.** $18\sqrt{2}$ in.



23.

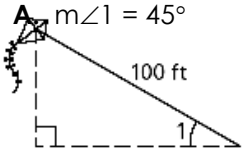


24.



25. A kite is attached to a 100 foot string as shown in the diagram. How far above the ground is the kite when the string forms the given angle?

A. m∠1 = 45° **B.** m∠1 = 30°

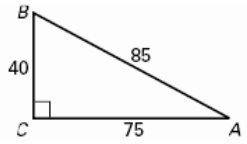


Find the following trig functions. Write your answers as simplified fractions.

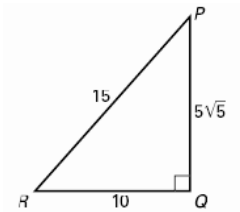
26. Using a special right triangle, find the three trig functions of 45°.

27. Using a special right triangle, find the three trig functions of 30°.

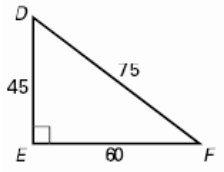
28. Find all three trig functions of angle B.



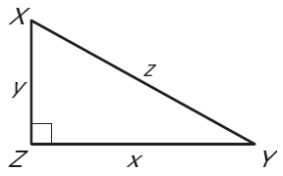
29. Find all three trig functions of angle P.



30. Find all three trig functions of angle F.

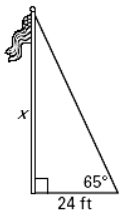


31. If z = 12 and x = 6, find *sin X* to the nearest tenth.

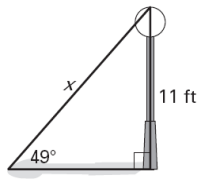


Find the value of the variable to the nearest tenth.

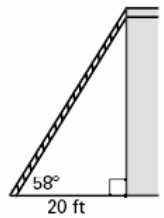
32. Find the height (x) of the flagpole to the nearest foot.



33. A lamppost is 11 feet tall. If the angle of elevation through the top of the lamppost to the sun is 49°, about how far is the top of the lamppost from the tip of its shadow?

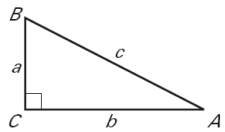


34. A rope, staked 20 feet from the base of a building, goes to the roof and forms an angle of 58° with the ground. How long is the rope?

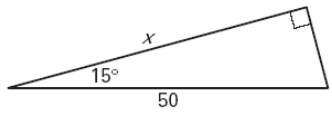


35. A road rises 10 feet in a horizontal distance of 200 feet. What is the angle of elevation?

36. If *a* = 17 and m∠*A* = 31°, find *b*.

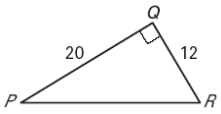


37. Find x.



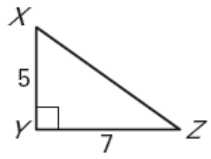
Use a calculator and inverse trig functions to find the following values to the nearest tenth.

38. m∠P



39. cos *B* = 0.56

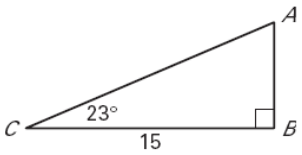
40. m∠Z



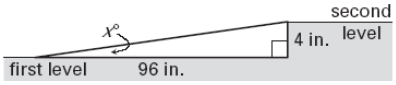
Solve the following triangles. Round decimals to the nearest tenth.

41. Solve a right triangle that has a 50°angle and a 15 inch hypotenuse.

42.



43. You are building a track for a model train. You want the track to incline from the first level to the second level, 4 inches higher in 96 inches. Is the angle of elevation less than 3°?



◆ Chapter 7 Final Exam Review Answers

1. x = 13 **2**. x = 75 **3**. x = 36 **4**. x = 9 **5**. C **6**. 192 in^2 **7**. 672 ft^2 **8**. Acute

9. right **10**. obtuse **11**. obtuse **12**. right **13**. acute **14**. 8

15. 12 **16**. $20\sqrt{2}$ ft **17**. 48 ft **18**. 17 ft

19. $2\sqrt{13}$ ft **20**. $12\sqrt{2}$ **21**. 20 **22**. D **23**. x = 15

24. a = $5\sqrt{3}$, b = $10\sqrt{3}$ **25**. $50\sqrt{2}$, 50 **26**. cos 45 = $\frac{\sqrt{2}}{2}$, sin 45 = $\frac{\sqrt{2}}{2}$, tan 45 = 1

27. cos 30 = $\frac{\sqrt{3}}{2}$, sin 30 = $\frac{1}{2}$, tan 30 = $\frac{\sqrt{3}}{3}$ **28**. sin B = $\frac{15}{17}$, tan B = $\frac{15}{8}$, cos B = $\frac{8}{17}$

29. sin P = $\frac{2}{3}$, cos P = $\frac{\sqrt{5}}{3}$, tan P = $\frac{2\sqrt{5}}{5}$ **30**. sin F = $\frac{3}{5}$, cos F = $\frac{4}{5}$, tan F = $\frac{3}{4}$

31. sin X = $\frac{1}{2}$ **32**. x = 51 **33**. x = 14.58 **34**. x = 37.74 **35**. x = 2.86˚

36. x = 28.29 **37**. x = 48.30 **38**. 31.0˚ **39**. 55.9˚ **40**. 35.5˚

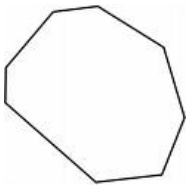
41. 40˚, 11.49, 9.64 **42**. 16.3, 6.4, 67˚ **43**. yes, 2.4˚

Geometry CP **Name**_____

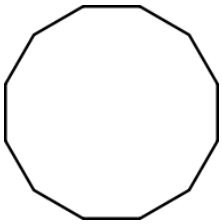
Chapter 8 Final Exam Review

Find the values as indicated:

1. The sum of the interior and exterior angles of an octagon.

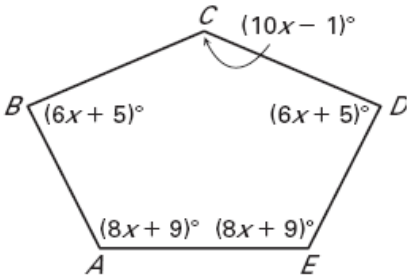


2. The measure of each interior and exterior angle of a regular dodecagon.

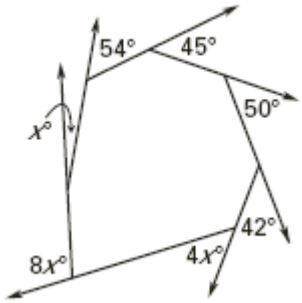


3. Find the number of sides of a convex polygon whose interior angle sum is 3780°.

4. Find the value of x and m∠C.

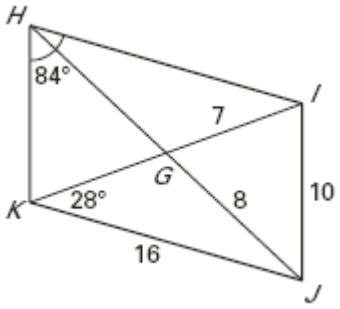


5. Find the value of x.



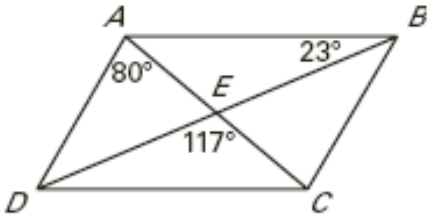
Find the value of each variable in the parallelogram shown. m∠KHI = 84 DEGREES.

m∠KHI = 84



6. KI	**7. HI**	**8. HK**
9. m∠HKJ	**10. m∠KJI**	**11. m∠KIJ**

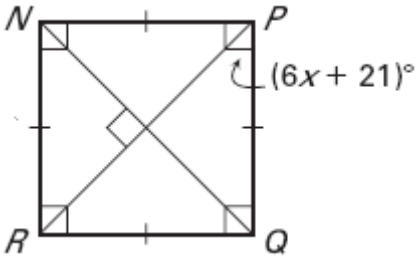
In the diagram show, ABCD is a parallelogram. Find the indicated measure.



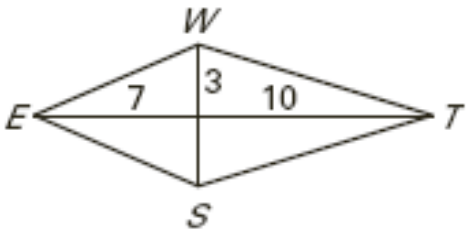
12. $m\angle AEB$	**13.** $m\angle AED$	**14.** $m\angle DCB$	**15.** $m\angle ADC$

Find the indicated side or angle:

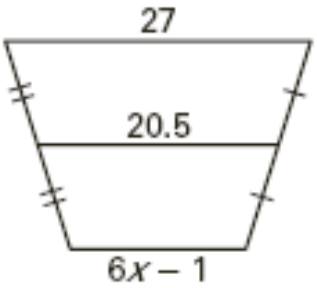
16. Find the value of x.



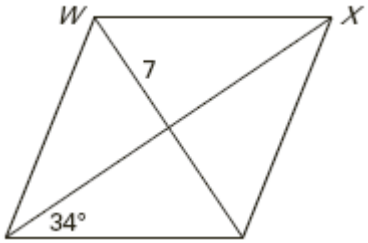
17. WEST is a kite. Find WS and WT.



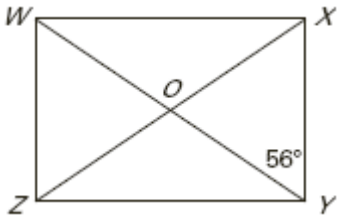
18. Find the value of x



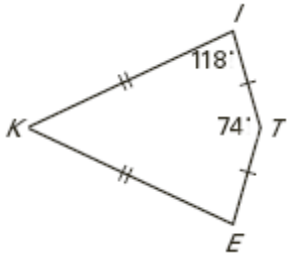
19. Given this rhombus, find WX *(trig)*



20. Find the perimeter of rectangle WXYZ given WO=5 *(trig)*.



KITE is a kite. Find the following angles:



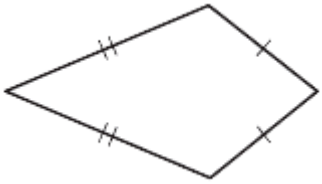
21. ∠E

22. ∠K

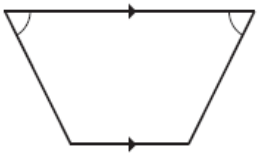
23. The intersection of KT and IE.

Classify the following quadrilaterals

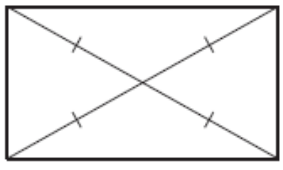
24.



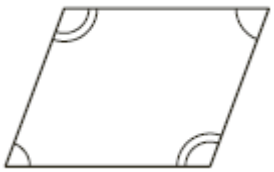
25.



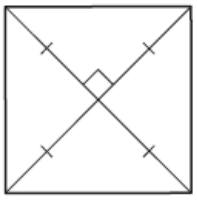
26.



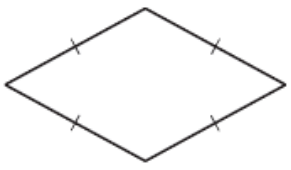
27.



28.



29.



30. $ECTA$ is a rectangle with the diagonals intersecting at R. $EC = 48$, $ER = 6x - 14$, $CA = 50$, $CT = 14$, and $EA = 5y + 4$. Find x and y. (Draw a picture).	**31.** $RECT$ is a rectangle. Find x and y if $m\angle T = 2x + y + 6$ and $m\angle C = x + 2y - 6$. Draw a picture.

◆ Chapter 8 Final Exam Review Answers

1. Int – 1080 / Ext – 360 **2**. Int – 150 / Ext – 30 **3**. 23 **4**. x = 13.5, C = 134

5. x = 13 **6**. 14 **7**. 16 **8**. 10 **9**. 96 **10**. 84 **11**. 68

12. 117 **13**. 63 **14**. 120 **15**. 60 **16**. 4 **17**. 6, 10.44 **18**. 2.5

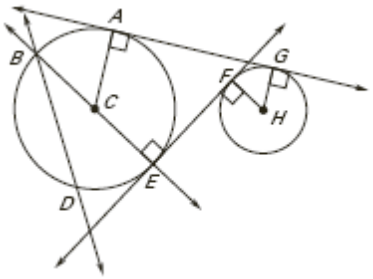
19. 12.52 **20**. 27.76 **21**. 118 **22**. 50 **23**. All 90's **24**. Kite **25**. Isosceles Trapezoid

26. Rectangle **27**. Parallelogram **28**. Square **29**. Rhombus **30**. x=6.5, y=2

31. x=24, y = 36

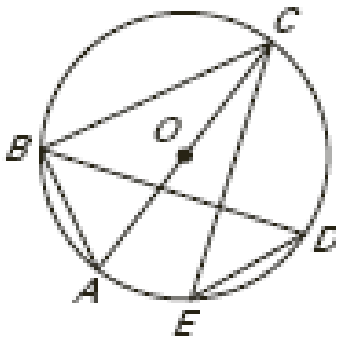
Geometry CP **Name**_____
Chapter 10 Final Exam Review

Use the diagram to give the best name for the following



1. F
2. $\overleftrightarrow{FE}$
3. $\overline{HG}$
4. $\overline{DB}$
5. C
6. $\overline{BE}$
7. $\overleftrightarrow{DB}$
8. $\overleftrightarrow{AG}$

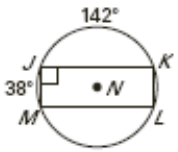
Find the indicated measure in circle O, given $\overset{\frown}{mCD} = 85°$ ***and*** $\overset{\frown}{mBE} = 97°$**.**



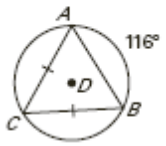
9. $m\angle ABC$
10. $m\angle CED$
11. $m\angle BDE$
12. $m\angle CBD$
13. $m\angle ABD$
14. $m\angle BCE$
15. $\overset{\frown}{mAD}$
16. $\overset{\frown}{mABC}$

Find the indicated measure.

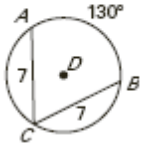
17. $\overset{\frown}{mKLM}$



18. $\overset{\frown}{mBC}$



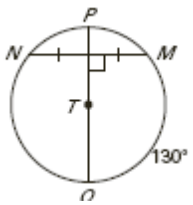
19. $\overset{\frown}{mAC}$

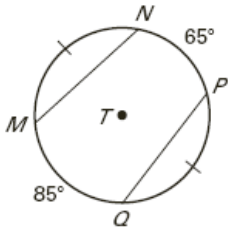


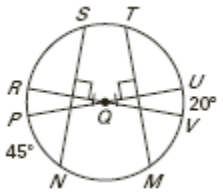
20. $\overset{\frown}{mPQR}$



Find the measure of $\overset{\frown}{MN}$.

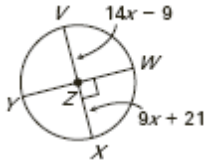
21. 

22. 

~~23.~~ 

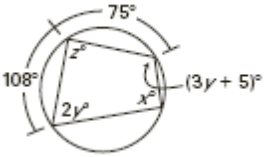
~~**SKIP!**~~

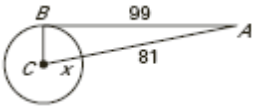
Find the value of the variables. Assume that segments that appear to be tangent, are tangent.

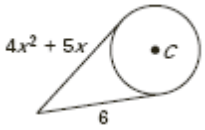
24. 

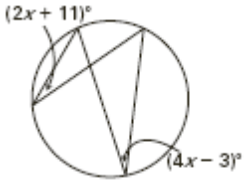
25. 

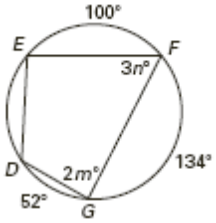
26. 

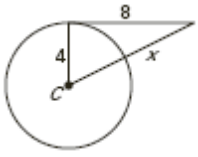
27. 

28. 

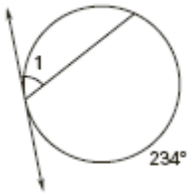
29. 

30. 

31. 

32. 

Find the m∠ 1.

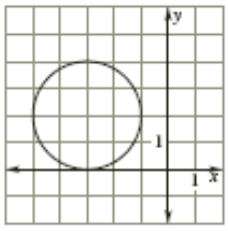
33. 

Use the given information to write the standard equation of a circle.

34. Center (-3, 1), radius: 5

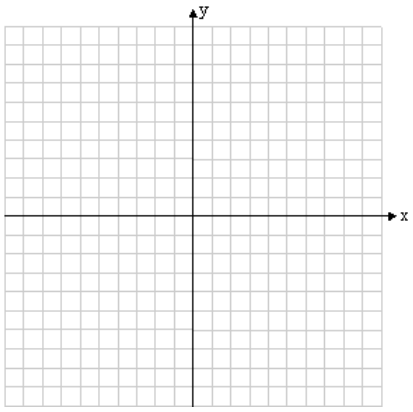
35. Center (2, 4), pt on the circle (-3, 16)

36. Write the standard equation of a circle whose diameter has endpoints at (0,5) and (4,3).

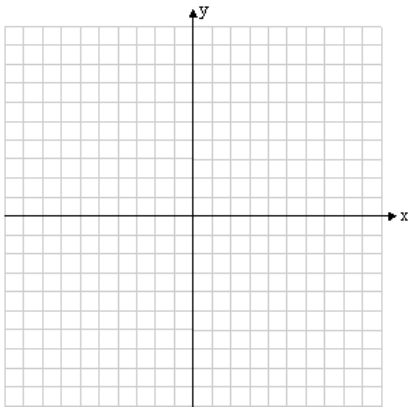
37. Write the standard equation of the circle. 

38. Graph the circle on the axes below. State the center and radius.

a) $(x - 3)^2 + (y + 4)^2 = 16$



b) $(x+2)^2 + y^2 = 50$



Rewrite the following equations of a circle into standard from by completing the square. Then state the center and the radius.

39. $x^2 - 8x + 16 + y^2 + 2y + 4 = 25$

center: radius:

40. $x^2 + 6x + y^2 - 2y = 2$

center: radius:

41. $x^2 + 2x + y^2 - 6y = 10$

center: radius:

42. $x^2 + 6x + y^2 - 4y = 12$

center: radius:

◆ **Chapter 10 Final Exam Review Answers**

1. point of tangency **2**. common tangent **3**. radius **4**. chord **5**. center

6. diameter **7**. secant **8**. common tangent **9**. 90 **10**. 42.5 **11**. 48.5

12. 42.5 **13**. 47.5 **14**. 48.5 **15**. 95 **16**. 180 **17**. 180 **18**. 122

19. 115 **20**. 80 **21**. 100 **22**. 105 **~~23. 70~~** **24**. 6

25. 8 **26**. 4 **27**. x = 91.5, y = 35, z= 88.5 **28**. 20 **29**. x = -2, 3/4

30. 7 **31**. n = 21, m = 43.5 **32**. 4.94 **33**. 63 **34**. $(x+3)^2+(y-1)^2=25$

35. $(x-2)^2+(y-4)^2=169$ **36**. $(x-2)^2+(y-4)^2=5$ **37**. $(x+3)^2+(y-2)^2=4$

38. *see online key for drawings* **38a**. Center: (3, -4); r = 4 **38b**. Center: (-2, 0); r = $5\sqrt{2}$

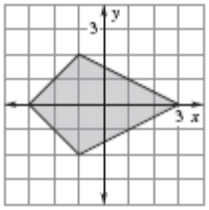
39. $(x-4)^2+(y+1)^2=22$ C: (4, -1) R: $\sqrt{22}$ **40**. $(x+3)^2+(y-1)^2=12$ C: (-3, 1) R: $2\sqrt{3}$

41. $(x+1)^2+(y-3)^2=20$ C: (-1, 3) R: $2\sqrt{5}$ **42.** $(x+3)^2+(y-2)^2=25$ C: (-3, 2) R: 5

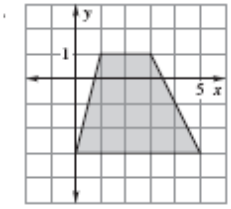
Geometry CP **Name**_____
Chapter 11 Final Exam Review

Find the area of the shaded figure shown.

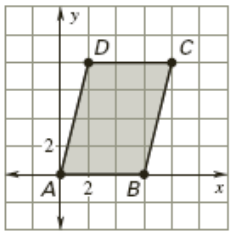
1. ~~**SKIP!**~~



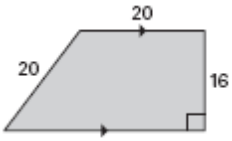
2. ~~**SKIP!**~~



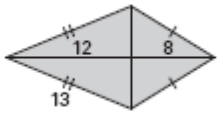
3. ~~**SKIP!**~~



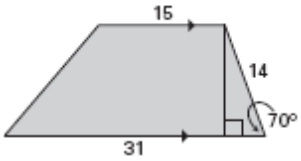
4.



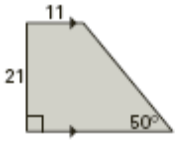
5.



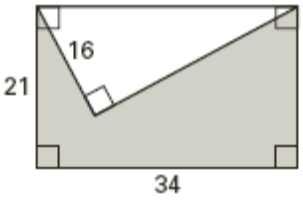
6.



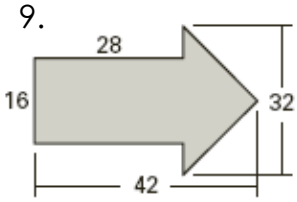
7.



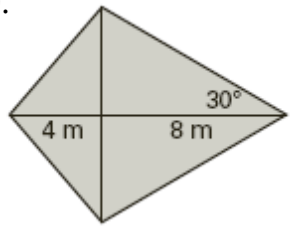
8.



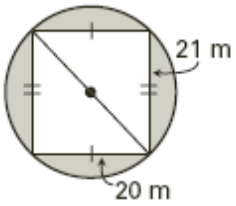
9.



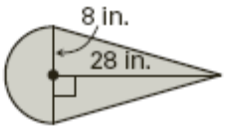
10.



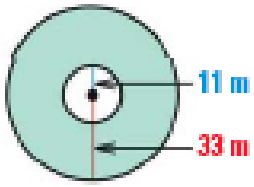
11.



12.



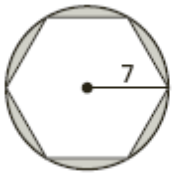
13. 11= small circle radius
33 = big circle radius



14.

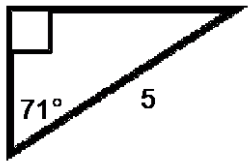


15. **SKIP!**

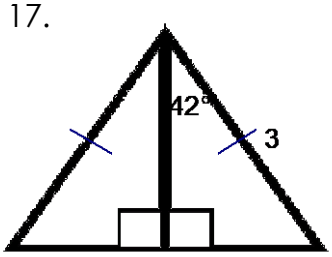


Find the area of the triangles below.

16.

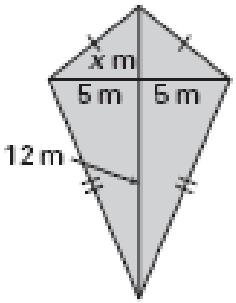


17.



Use the given area to find the value of x.

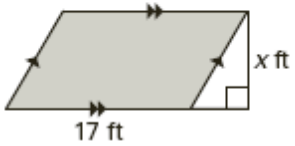
18. Area = $80m^2$



19. Area = $288.96\ ft^2$



20. Area = $153\ ft^2$



Algebra

21. The area of a triangle is 54 square units. The base of the triangle is three times the height. Find the base and the height.

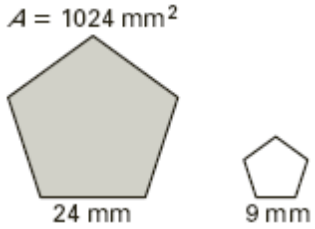
22. The area of a parallelogram is 80 square centimeters. The height of the parallelogram is four fifths its base. Find the base and the height.

23. **Complete the table of ratios for similar polygons.**

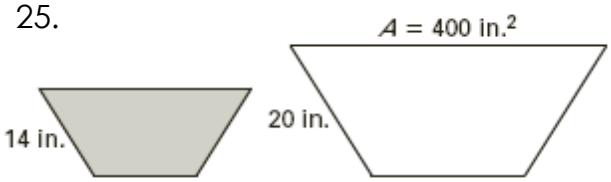
Ratio of corresponding side lengths	Ratio of perimeters	Ratio of areas
3 : 4		
		144 : 25
	3 : 7	

Corresponding lengths in similar figures are given. Find the ratios (shaded to unshaded) of the perimeters and areas. Find the unknown area.

24.

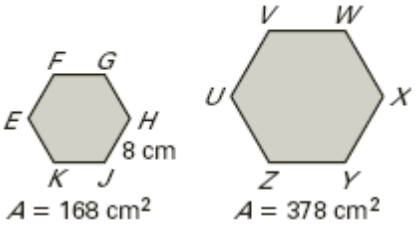


25.

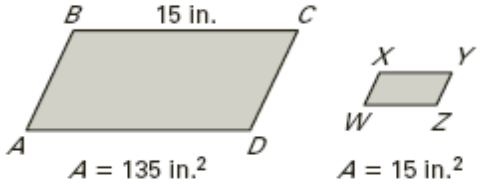


Use the given area to find XY.

26. $EFGHJK \sim UVWXYZ$

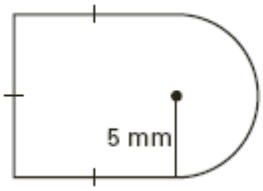


27. $ABCD \sim WXYZ$

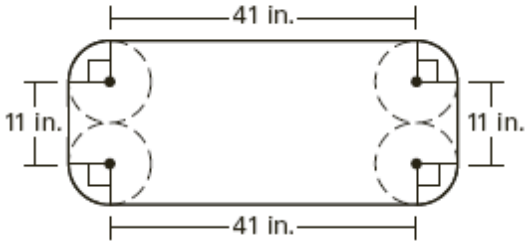


Find the perimeter of the figure.

28.

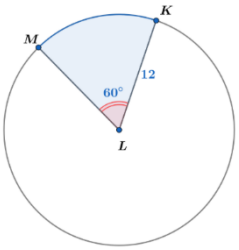


29. ~~SKIP!~~

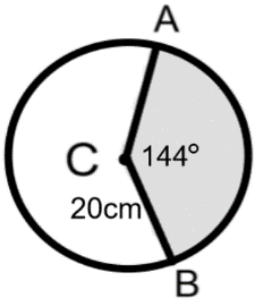


Find the exact area of the sector.

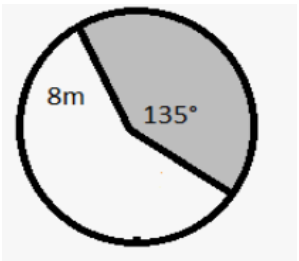
30.



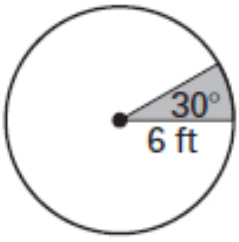
31.



32.

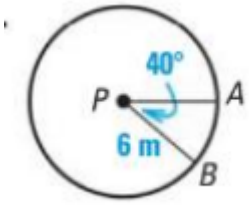


33.

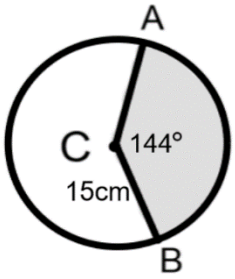


Find the exact length of $\widehat{AB}$.

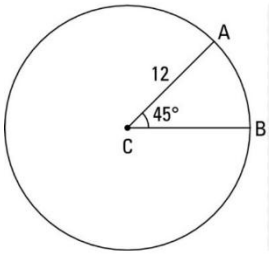
34.



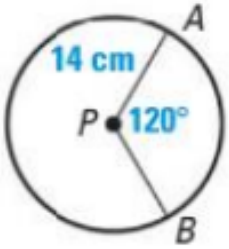
35.



36.

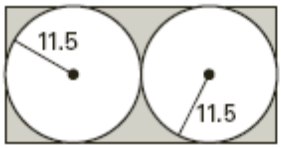


37.

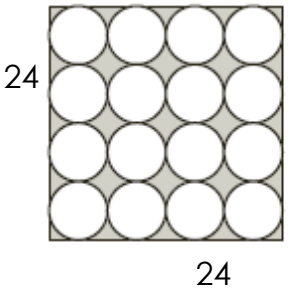


Find the area of the shaded region.

38.



39.



Find the measure of a central angle of a regular polygon with the given number of sides.

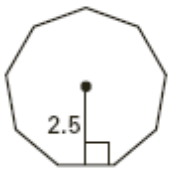
40. 12 sides

41. 30 sides

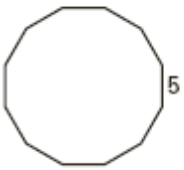
42. 16 sides

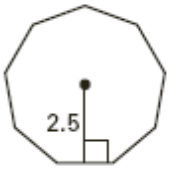
43. A regular octagon has a radius of 11.5 inches. What is the length of its apothem?

Find the area of each regular polygon.

44. 

45. 

46. 

47. 

◆ Chapter 11 Final Exam Review Answers

1. 12 **2**. 14 **3**. 48 **4**. 416 **5**. 100 **6**. 302.68 **7**. 415.8

8. 474 **9**. 672 **10**. 55.43 **11**. 240.52 **12**. 324.53 **13**. 3041.06 **14**. 199.09

15. 26.67 **16**. 3.85 **17**. 4.48 **18**. 4 **19**. 20 **20**. 9 **21**. h=6, b=18

22. h=8, b=10 **23**. 3:4, 9:16, 12:5, 12:5, 3:7, 9:49 **24**. 144 **25**. 196

26. 12 **27**. 5 **28**. 45.71 **29**. 138.56 **30**. 24π **31**. $160\,\pi$ **32**. $24\,\pi$

33. $3\,\pi$ **34**. $\frac{4}{3}\pi$ **35**. $12\,\pi$ **36**. $3\,\pi$ **37**. $\frac{28}{3}\pi$ **38**. 227.05 **39**. 123.61

40. 30 **41**. 12 **42**. 22.5 **43**. 10.62 **44**. A = 20.47 **45**. A = 166.28

46. A = 279.9 **47**. A= 20.47

Geometry CP **Name**_____
Chapter 12 Final Exam Review

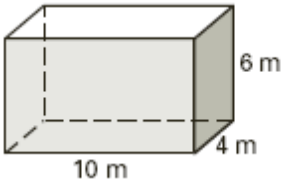
Determine whether the solid is a polyhedron. If it is, name the polyhedron. If not, write no.

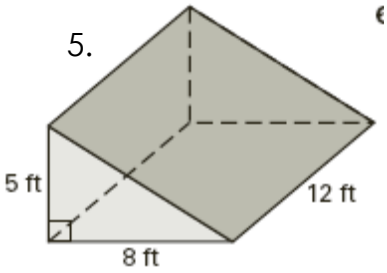
1. 

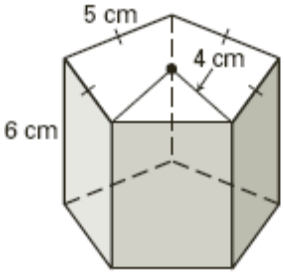
2. 

3. 

Find the surface area of the right prism. Round your answers to two decimal places.

4. 

5. 

6. 

Find the surface area of the right cylinder using the given radius and height. Round your answers to two decimal places.

7. $r = 12$ in.; $h = 18$ in.



8. $r = 1.1$ ft; $h = 3.2$ ft

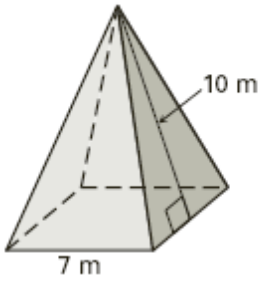


9. $r = 5$ cm; $h = 15$ cm

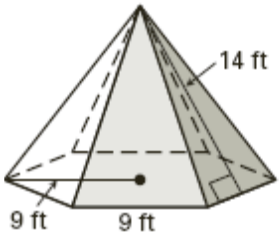


Find the surface area of the regular pyramid. Round your answer to two decimal places.

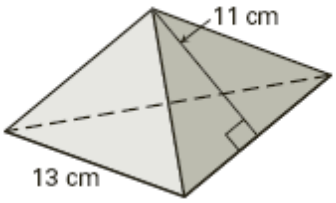
10.



11.

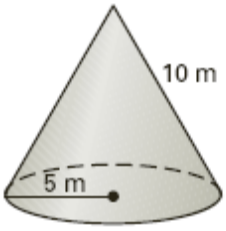


12.

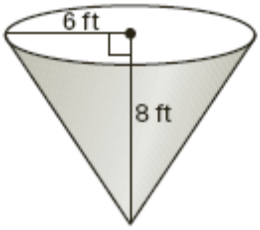


Find the lateral area of the right cone. Round your answer to two decimal places.

13.



14.

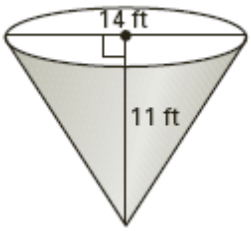


Find the surface area of the right cone. Round your answers to two decimal places.

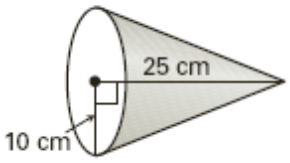
15.



16.

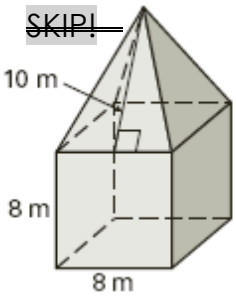


17.

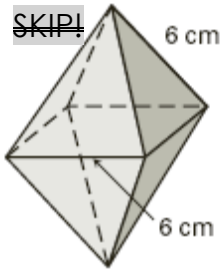


Find the <u>surface area and volume</u> of the solid.

18. ~~SKIP!~~

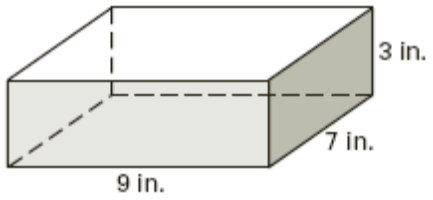


19. ~~SKIP!~~

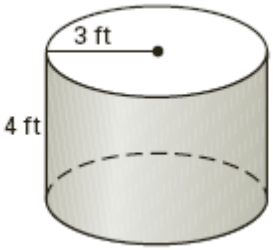


Find the volume of the right cylinder or right prism. Round your answers to two decimal places.

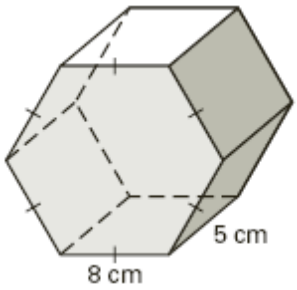
20.



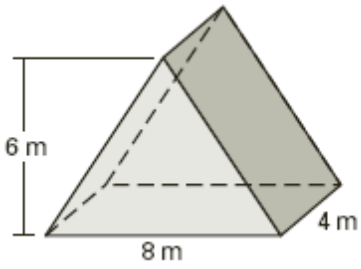
21.



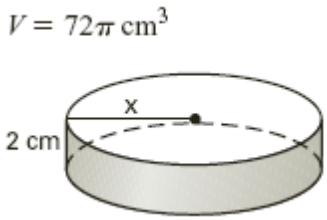
22.



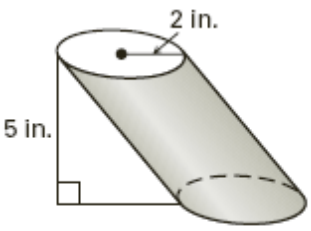
23.



24. Find the length x using the given volume. **SKIP!**

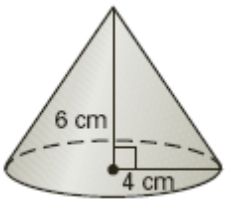


25. Find the EXACT volume of the oblique cylinder. **SKIP!**

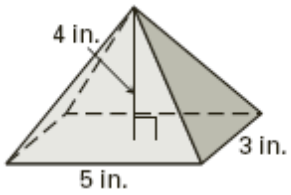


Find the volume of solid.

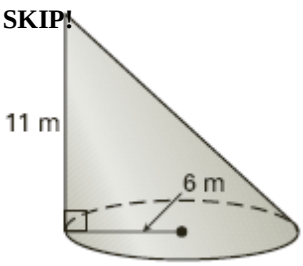
26.



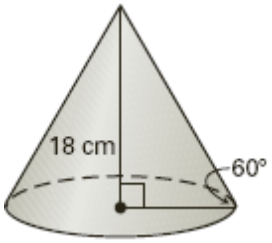
27.



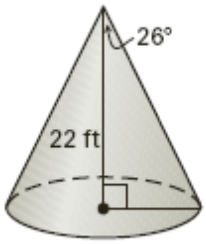
28. **SKIP!**



29.

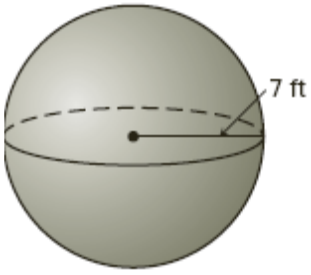


30.

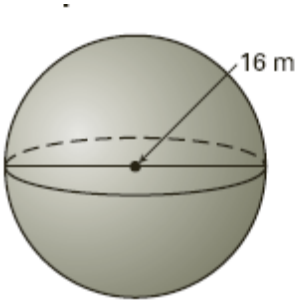


Find the surface area and volume of the spheres.

31.



32.



Find the radius of the sphere with the given volume V. Round your answers to two decimal places.

33. $V = 64 \text{ in.}^3$ ~~SKIP!~~

34. $V = 150\pi \text{ cm}^3$ ~~SKIP!~~

35. A rectangular box has a volume of 1440 cubic meters, a length of 15 m and a height of 8 meter. Find the width.

◆ **Chapter 12 Final Exam Review Answers**

1. rectangular prism	**2**. No	**3**. NO	**4**. 248	**5**. 308.8	**6**. 228
7. 2261.95	**8**. 29.72	**9**. 628.32	**10**. 189	**11**. 588.44	**12**. 287.68
13. 157.08	**14**. 188.50	**15**. 578.05	**16**. 440.67	**17**. 1160.306	**18**. S=480, V=708.3
19. S=124.8, V=101.76	**20**. 189	**21**. 113.10	**22**. 831.38	**23**. 96	**24**. 6
25. 62.83	**26**. 100.53	**27**. 20	**28**. 414.69	**29**. 2038.77	**30**. 2652.47
31. S=615.75, V=1436.76	**32**. S=804.25, V=2144.66		**33**. 2.48	**34**. 4.83	**35**. 12