Joliet Junior College Accuplacer Geometry Placement Exam
REVIEW PACKET

1. List the next three numbers in the sequence. 1, 4, 9, …

   a) 36, 25, 49 b) 12, 15, 18 c) 36, 144, 576 d) 16, 25, 36

2. List the next two terms in the sequence. 7, 6, 4, 1, …

   a) 0, -1 b) -3, -8 c) 1, 6 d) -2, -5

3. Given the conditional $P \rightarrow Q$, determine the type of statement: $\sim Q \rightarrow \sim P$

   a) converse
   b) inverse
   c) contrapositive
   d) negation
   e) biconditional

4. Given the conditional $P \rightarrow Q$, determine the type of statement: $\sim P \rightarrow \sim Q$

   a) converse
   b) inverse
   c) contrapositive
   d) negation
   e) biconditional

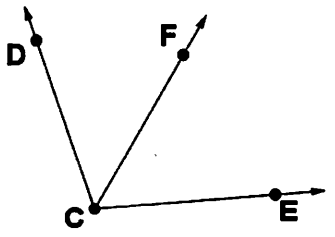
5. Using the statement "Dogs have four legs," classify the following statement.
   If an animal has four legs, then it is a dog.

   a) converse b) negation c) inverse d) contrapositive

6. Using the statement "Dogs have four legs," classify the following statement.
   If an animal does not have four legs, then it is not a dog.

   a) converse b) negation c) inverse d) contrapositive

7. Given that $\overrightarrow{CF}$ bisects $\angle DCE$, $m\angle DCE = 124°$, and $m\angle FCE = (6x + 4)°$, find x. Round to the nearest tenth as needed.

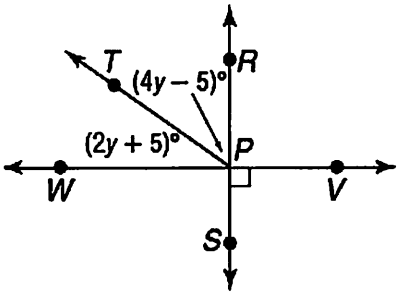


   a) 10.3 b) 62 c) 9.7 d) 20

8. Given that $\angle DCE$ and $\angle ECF$ are supplementary with $m\angle DCE = (3x + 12)°$ and $m\angle ECF = (2x - 7)°$ find $m\angle DCE$. Round to the nearest degree as needed.

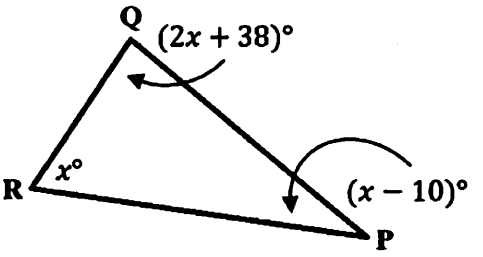
a) 56° b) 117° c) 35° d) 63°

9. In the diagram below, find $m\angle TPW$. Round to the nearest degree as needed.



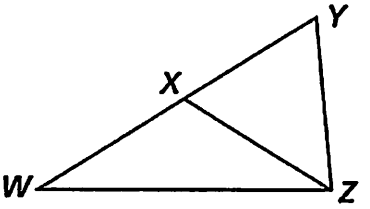
a) 15° b) 45° c) 55° d) 35°

10. Refer to $\triangle PQR$. What is the measure of angle Q? Round to the nearest degree as needed.



a) 38° b) 60° c) 76° d) 114°

11. In the figure, $\overline{WX} \cong \overline{XZ} \cong \overline{YZ}$. If $m\angle W = 32°$, find $m\angle WZY$. Round to the nearest degree as needed.



a) 84° b) 32° c) 88° d) 64°

12. If a triangle has side lengths 6, 8, and 12, what type of triangle is it?

a) right b) acute c) obtuse d) need more information

13. Line segments with lengths 3 cm, 1 cm, and 2 cm…

a) could not form a triangle. b) could form an equilateral triangle.
c) could form a scalene triangle. d) could form an isosceles triangle.

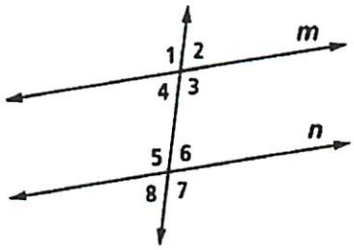
14. Line segments with lengths 3 cm, 4 cm, and 5 cm…

a) could not form a triangle. b) could form an equilateral triangle.
c) could form a scalene triangle. d) could form an isosceles triangle.

15. What type of triangle has side lengths in ratio 1:1:1?

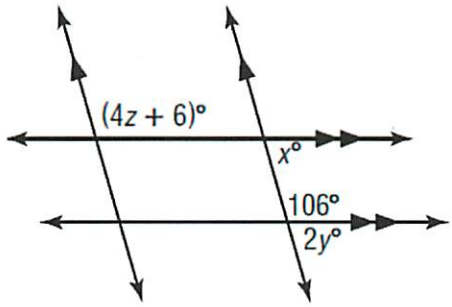
a) acute b) obtuse c) right d) equiangular

16. In the diagram, $\angle 3$ and $\angle$____ are corresponding angles.



a) 5 b) 4 c) 7 d) 6

17. Find the value for z. Round to the nearest whole number as needed.

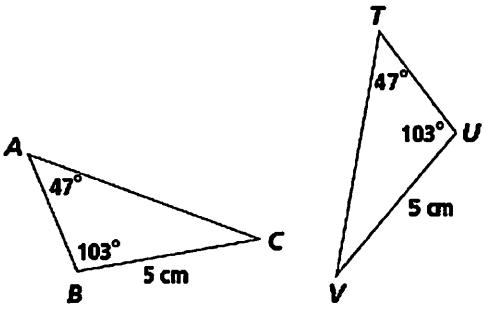


a) 74 b) 25 c) 53 d) 106

18. Which of the following must be true if $\triangle BCD \cong \triangle GHF$?

a) $\angle DBC \cong \angle FHG$ b) $\overline{BC} \cong \overline{HF}$
c) $\angle CDB \cong \angle HFG$ d) $\overline{BD} \cong \overline{HG}$

19. The below triangles are congruent. Using only the given information, state which property justifies the congruence.

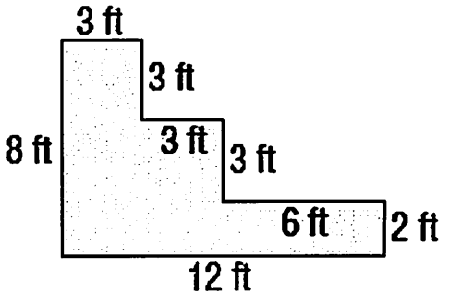


a) SAS b) AAS c) AAA d) ASA

20. Find the perimeter of a regular pentagon if each side is n cm long.

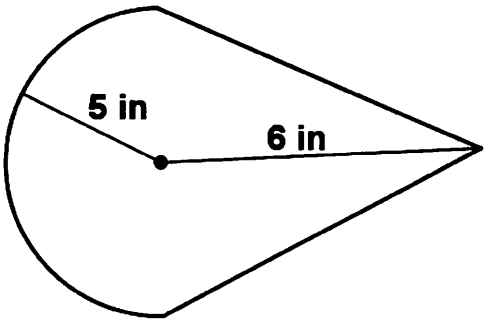
a) $5n$ b) n^5 c) $7n$ d) n^7

21. Find the area of the region. Assume all angles are right angles.



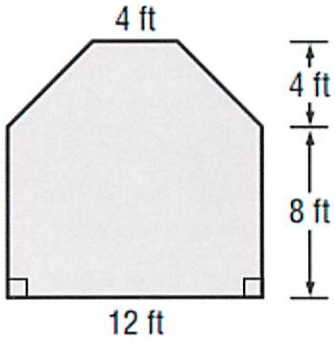
a) 99 ft^2 b) 40 ft^2 c) 48 ft^2 d) 51 ft^2

22. Find the area of the region. Round to the nearest whole number as needed.



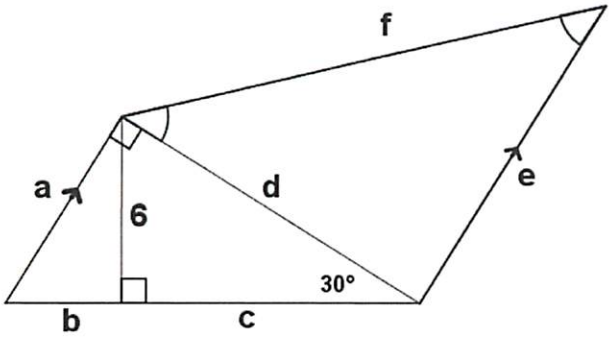
a) 94 in^2 b) 109 in^2 c) 69 in^2 d) 61 in^2

23. Find the area of the figure.



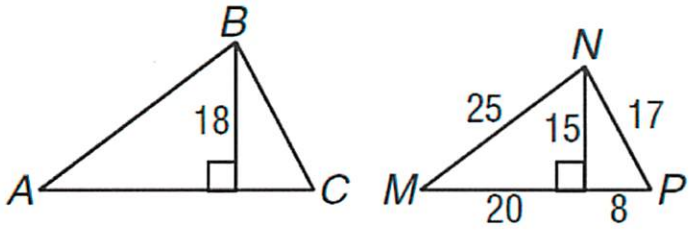
a) 160 ft^2 b) 128 ft^2 c) 144 ft^2 d) 112 ft^2

24. Find the value for f.



a) $12\sqrt{2}$ b) $6\sqrt{6}$ c) $3\sqrt{2}$ d) $12\sqrt{3}$

25. Find the perimeter of $\triangle ABC$ if $\triangle ABC \sim \triangle MNP$. Round to the nearest whole number as needed.

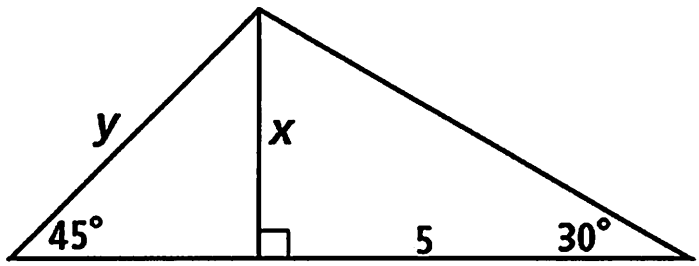


a) 82 b) 102 c) 84 d) 58

26. The lengths of the sides of a triangle are in extended ratio 4:7:9. The perimeter is 80 cm. What is the length of the longest side of the triangle to the nearest centimeter?

a) 36 cm b) 20 cm c) 9 cm d) 60 cm

27. Find the value for y.

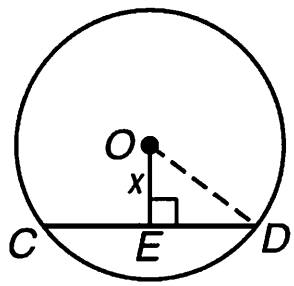


a) $\frac{5\sqrt{6}}{3}$ b) $5\sqrt{6}$ c) $5\sqrt{2}$ d) $\frac{5\sqrt{3}}{3}$

28. Find the area of a regular hexagon with side length 10 m.

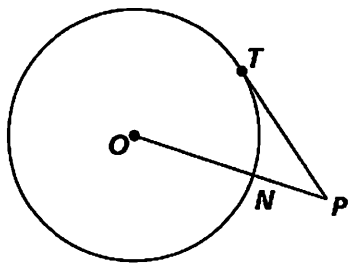
a) 60 m^2 b) $150\sqrt{3}$ m^2 c) $30\sqrt{3}$ m^2 d) 150 m^2

29. In $\odot O$, $OD = 25$ yd and $CD = 42$ yd. Find x. Round to the nearest tenth as needed.



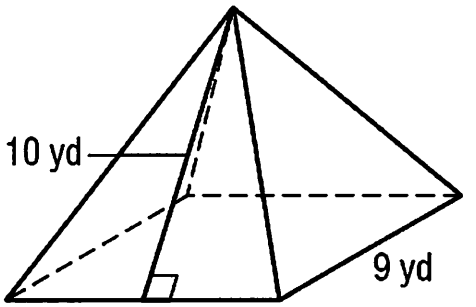
a) 16.9 yd b) 10.5 yd c) 25 yd d) 13.6 yd

30. In the figure below, $\overline{PT}$ is tangent to $\odot O$ at T. $PT = 12$ yd and $PO = 15$ yd. Find the radius of the circle. Round to the nearest tenth as needed.



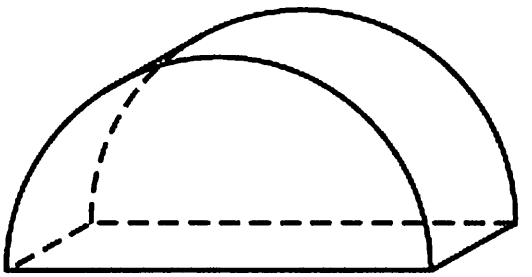
a) 19.2 yd b) 18 yd c) 9 yd d) 12 yd

31. Find the lateral surface area of the square pyramid. Round to the nearest whole number as needed.



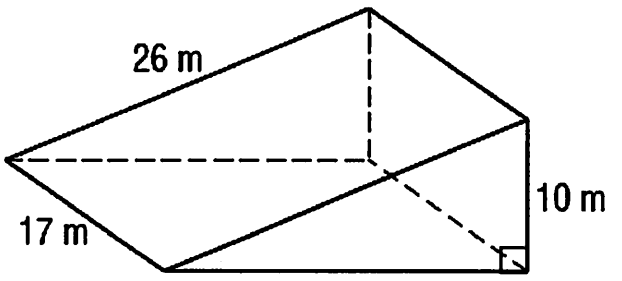
a) 360 yd^2 b) 261 yd^2 c) 180 yd^2 d) 90 yd^2

32. A block is in the shape of a half cylinder. The block is 10 cm wide, 5 cm high, and 3.5 cm thick. Find the surface area of the block. Use an exact value for π and round the final answer to the nearest whole number.



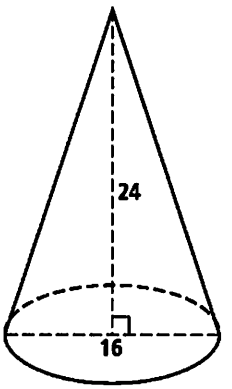
a) 169 cm^2 b) 267 cm^2 c) 175 cm^2 d) 134cm^2

33. Find the volume of the right prism. Round to the nearest whole number as needed.



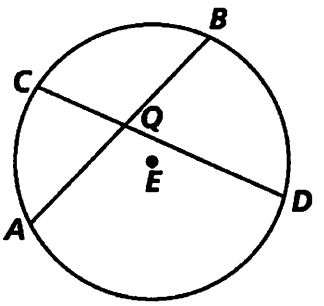
a) 2040 m^3 b) 1020 m^3 c) 2280 m^3 d) 4420 m^3

34. Find the volume of the right cone with height 24 mm and base diameter 16 mm. Round to the whole number as needed.



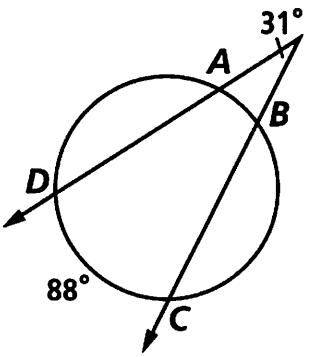
a) 1206 mm^3 b) 6434 mm^3 c) 4825 mm^3 d) 1608 mm^3

35. In $\odot E$, $m\overset{\frown}{CA} = 60°$ and $m\overset{\frown}{BD} = 82°$. Find $m\angle CQA$. Round to the nearest degree as needed.



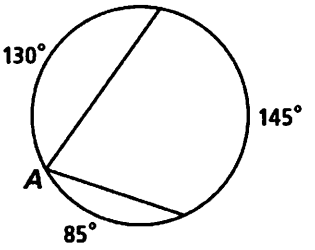
a) 30° b) 71° c) 142° d) 60°

36. Find $m\overset{\frown}{AB}$. Round to the nearest degree as needed.



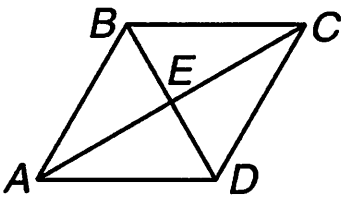
a) 26° b) 29° c) 62° d) 60°

37. Find $m\angle A$. Round to the nearest degree as needed.



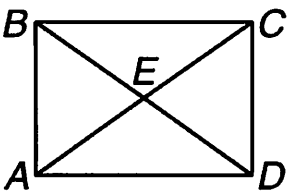
a) 73° b) 145° c) 108° d) 70°

38. Given rhombus ABCD, if $m\angle ABD = 60°$, find $m\angle ADC$. Round to the nearest degree as needed.



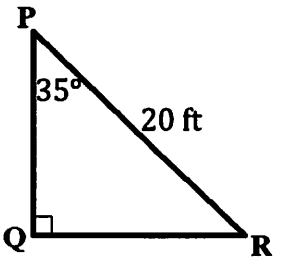
a) 30° b) 60° c) 120° d) 90°

39. Given rectangle ABCD, if $m\angle BEA = 62°$, find $m\angle BDC$. Round to the nearest degree as needed.



a) 118° b) 62° c) 31° d) 59°

40. Given right triangle $\Delta\ PQR$, find QR. Round to the nearest tenth as needed.



a) 34.9 ft b) 16.4 ft c) 11.5 ft d) 14.0 ft

Joliet Junior College Accuplacer Geometry Placement Exam
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ANSWERS

1. D	11. A	21. D	31. C
2. B	12. C	22. C	32. A
3. C	13. A	23. B	33. A
4. B	14. C	24. A	34. D
5. A	15. D	25. C	35. B
6. D	16. C	26. A	36. A
7. C	17. B	27. A	37. A
8. B	18. C	28. B	38. C
9. D	19. B	29. D	39. D
10. D	20. A	30. C	40. C