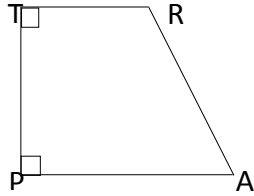


HONORS GEOMETRY SEMESTER 2 PRACTICE FINAL EXAM

1. In trapezoid $TRAP$, $PA = 44$, $TR = 30$, and $TP = 48$. Find RA .

- 50
- 48
- 28
- $14\sqrt{3}$
- $14\sqrt{2}$



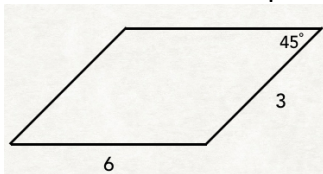
2. If the altitude of an equilateral triangle measures 102 cm., what is the perimeter of the triangle?

- $68\sqrt{3}$ cm.
- $34\sqrt{3}$ cm.
- $612\sqrt{2}$ cm.
- $204\sqrt{3}$ cm.
- $612\sqrt{3}$ cm.

3. In rhombus $PAWS$, $PW = 16$ cm. and $SA = 12$ cm. Find the perimeter of $PAWS$.

- 24 cm.
- 40 cm.
- 48 cm.
- 96 cm.
- 100 cm.

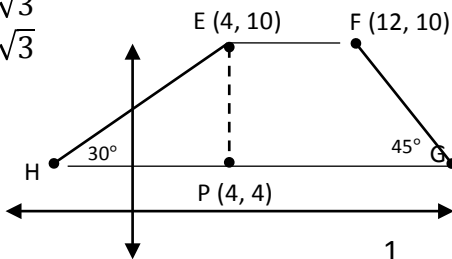
4. Find the area of the parallelogram.



- 9 cm.^2
- 18 cm.^2
- $9\sqrt{2} \text{ cm.}^2$
- $9\sqrt{3} \text{ cm.}^2$
- $18\sqrt{2} \text{ cm.}^2$

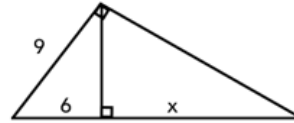
5. Find the perimeter of trapezoid $EFGH$.

- $34 + 6\sqrt{2} + 6\sqrt{3}$
- $46 + 6\sqrt{2} + 6\sqrt{3}$
- $66 + 18\sqrt{3}$
- $28 + 20\sqrt{2}$
- $46 + 6\sqrt{6}$

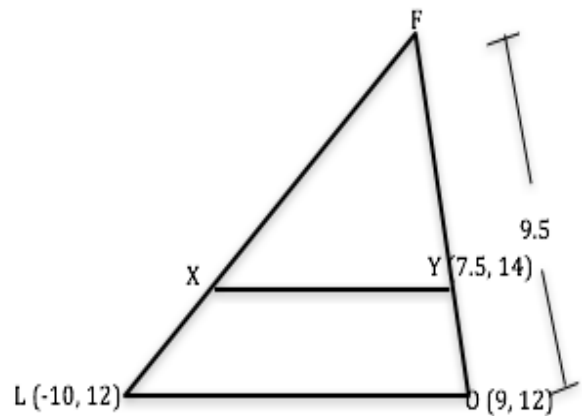


6. Solve for x .

- 13.5
- 54
- 7.5
- 24
- 9



Use the below diagram for the following two questions.



7. What is the length of YO ?

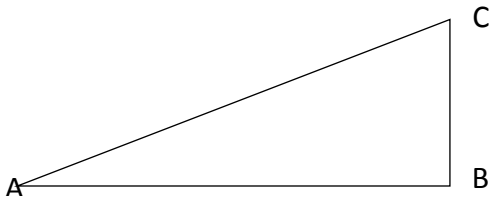
- 2 units
- 1.5 units
- 3 units
- 1 unit
- 2.5 units

8. If $\overrightarrow{XY} \parallel \overrightarrow{LO}$, what is the length of XY ?

- 7 units
- 14 units
- 15 units
- 16 units
- Not enough info

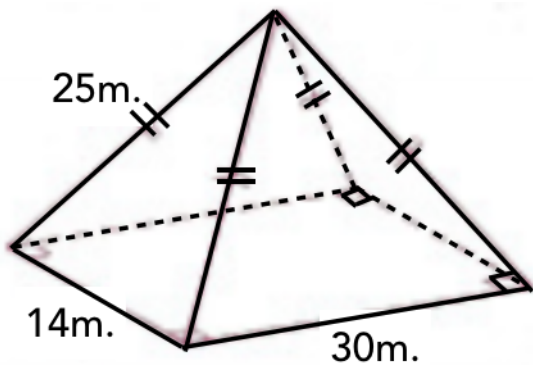
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9. If $AB = 280$, $m\angle B = 90^\circ$, and $\tan \angle A = \frac{\sqrt{5}}{10}$, find the lengths of the other two sides of the triangle below.



- $BC = 28\sqrt{5}$; $AC = 28\sqrt{105}$
- $BC = 56\sqrt{5}$; $AC = 56\sqrt{105}$
- $BC = 14\sqrt{5}$; $AC = 28\sqrt{105}$
- $BC = 28\sqrt{5}$; $AC = 560\sqrt{5}$
- $BC = 56\sqrt{5}$; $AC = 560\sqrt{5}$

10. Find the total surface area of the rectangular pyramid below.

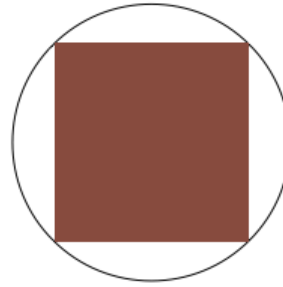


- 616 m.
- 2940 m.
- 1620 m.
- 1118 m.
- 638 m.

11. The point $(6, 5)$ lies on a circle. What is the length of the radius of this circle if the center is located at $(3, 2)$?

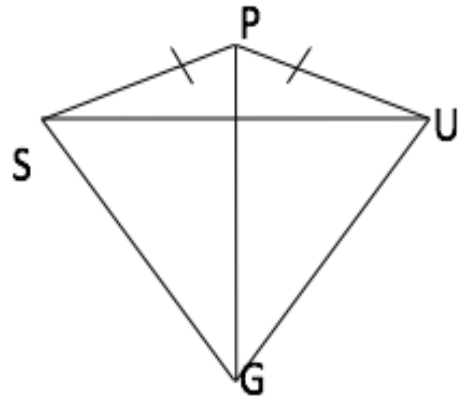
- $3\sqrt{2}$
- $2\sqrt{3}$
- 6
- 9
- 18

12. A circle with a radius of 3 cm. is circumscribed about a square. Find the area of the square.



- $9\sqrt{2} \text{ cm.}^2$
- $12\sqrt{2} \text{ cm.}^2$
- $24\sqrt{2} \text{ cm.}^2$
- 18 cm.^2
- 36 cm.^2

13. In kite $PUGS$, $UP = 10$, $UG = 13\sqrt{3}$, and $\angle SPU = 120^\circ$. Find the area of kite $PUGS$.



- $360 + 50\sqrt{3}$
- $180 + 25\sqrt{3}$
- $60\sqrt{3} + 50\sqrt{6}$
- $180 + 50\sqrt{3}$
- $60\sqrt{3} + 25\sqrt{6}$

14. According to the rules of the International Table Tennis Federation, a ping pong ball must have a surface area of $1600\pi \text{ mm.}^2$ (true story). What is the radius of a ping pong ball?

- $400\pi \text{ mm.}$
- 400 mm.
- $20\pi \text{ mm.}$
- 20 mm.
- None of the above

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15. If each side of a regular hexagon is 14 in. long, what is the hexagon's area?

- a. $42\sqrt{3} \text{ in.}^2$
- b. $49\sqrt{3} \text{ in.}^2$
- c. $98\sqrt{3} \text{ in.}^2$
- d. $294\sqrt{3} \text{ in.}^2$
- e. $588\sqrt{3} \text{ in.}^2$

For the following 6 questions, consider the equation: $x^2 + 6x + y^2 - 4y = 5$.

16. What is the radius of the circle?

- a. $\sqrt{5}$
- b. 5
- c. 25
- d. $2\sqrt{3}$
- e. $3\sqrt{2}$

17. What is the center of the circle?

- a. $(-6, 4)$
- b. $(6, -4)$
- c. $(-3, -4)$
- d. $(3, -2)$
- e. $(-3, 2)$

18. What is the area of the circle?

- a. $5\sqrt{2}\pi$
- b. $6\sqrt{2}\pi$
- c. 18π
- d. 25π
- e. 36π

19. What is the circumference of the circle?

- a. $5\sqrt{2}\pi$
- b. $6\sqrt{2}\pi$
- c. 18π
- d. 25π
- e. 36π

20. What is an equation of the tangent to the circle at point $(0, 5)$?

- a. $y = -x + 5$
- b. $y = x - 5$
- c. $y = -\frac{1}{3}x + 5$
- d. $y = -3x + 5$
- e. None of the above

21. What is the area of a sector of this circle with a central angle of 45° ?

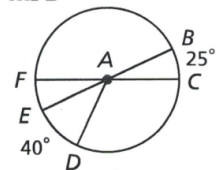
- a. 0.625π
- b. 1.125π
- c. 2.25π
- d. 3.125π
- e. 4.5π

22. The sonar of a navy cruiser detects a submarine that is 4,000 ft from the cruiser. The angle of depression is 34° . Approximately how far below the surface is the sub?

- a. 2,236.8 ft.
- b. 2,698.0 ft.
- c. 3,316.2 ft.
- d. 4,824.9 ft.
- e. 7,153.2 ft.

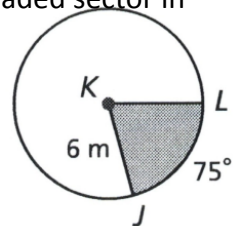
23. Given Circle A, find $m\widehat{FB}$

- a. 45°
- b. 205°
- c. 180°
- d. 155°
- e. 32.5°



24. What is the area of the shaded sector in Circle K?

- a. $\frac{15\pi}{2} \text{ m}^2$
- b. $\frac{5\pi}{2} \text{ m}^2$
- c. $\frac{5\pi}{4} \text{ m}^2$
- d. $9\pi \text{ m}^2$
- e. $27\pi \text{ m}^2$



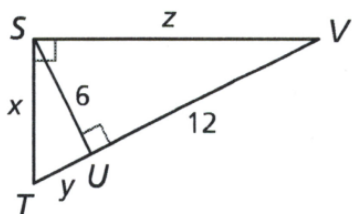
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25. What is the area of an equilateral triangle with

an apothem of $\frac{5\sqrt{3}}{3}$?

- $\frac{25\sqrt{3}}{3} \text{ units}^2$
- 25 units^2
- $25\sqrt{3} \text{ units}^2$
- $\frac{25}{6} \text{ units}^2$
- None of the above

26. Find x , y , and z in simplest form.



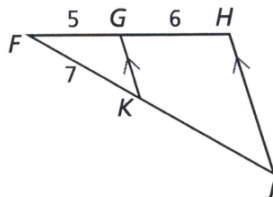
- $x = 3\sqrt{5}$, $y = 3$, $z = 6\sqrt{5}$
- $x = 3\sqrt{5}$, $y = 3$, $z = \sqrt{180}$
- $x = \sqrt{45}$, $y = 3$, $z = 3\sqrt{20}$
- $x = \sqrt{45}$, $y = 3$, $z = 6\sqrt{5}$
- None of the above

27. The ratio of the side lengths of a quadrilateral is $2 : 4 : 5 : 6$ and its perimeter is 85 inches. What is the length of the second shortest side?

- 20
- 18
- 17
- 10
- 5

28. Find KJ .

- 5
- 7.4
- 7.6
- 8
- 8.4



29. What is the measure of each interior angle of a regular decagon?

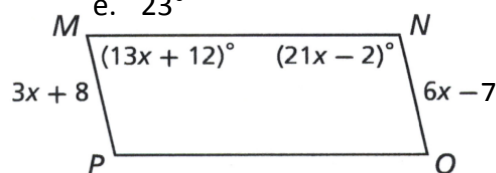
- 120°
- 150°
- 1440°
- 144°
- 1800°

30. What is the name of a regular polygon in which each interior angle measure is 135° ?

- heptagon
- octagon
- nonagon
- decagon
- dodecagon

32. Find the $m\angle M$ in parallelogram MNOP.

- 5°
- 103°
- 90°
- 77°
- 23°



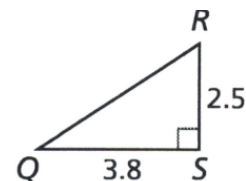
33. Find GH to the nearest hundredth.

- 6.14
- 15.21
- 6.63
- 22.00
- 17.69



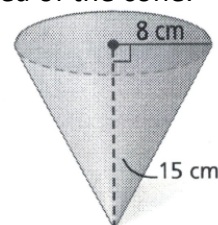
34. Find $m\angle R$ to the nearest tenth.

- 1.5°
- 56.7°
- 39.9°
- 4.5°
- 33.3°



35. Find the lateral surface area of the cone.

- $136\pi \text{ cm}^2$
- $200\pi \text{ cm}^2$
- $120\pi \text{ cm}^2$
- $150\pi \text{ cm}^2$
- $184\pi \text{ cm}^2$



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