

Name: _____

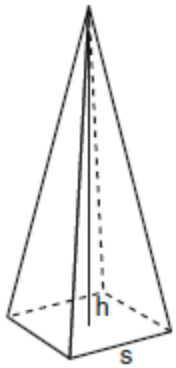
Period: _____

Test Review#1

Directions: Your test will be on Monday March 2nd. It will cover the following topics: Area, Volume, Lateral Area, and Similarity. To study for the test complete the problems on this review sheet and study the in-class assignments. If you are having difficulty with this review sheet then you should watch or re-watch the videos that cover these topics. The videos that cover the materials are posted on mrestrada.com/geometry and they start with "Area of a rectangle, square, circle, triangle and trapezoid" all the way through "Similarity VI". You can also qr code the videos.

- 1) A regular pyramid with a square base is shown in the diagram below. A side, s , of the base of the pyramid is 12 meters, and the height, h , is 42 meters. What is the volume of the pyramid in cubic meters?

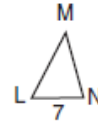
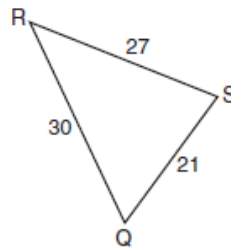
[Video: Volume of a pyramid, cone and sphere, Example 1]



- 2) A cylinder has a height of 7 cm and a base with a diameter of 10 cm. Determine the volume, in cubic centimeters, of the cylinder in terms of π .

- 5) If the surface area of a sphere is represented by 144π , what is the volume in terms of π ?

- 6) In the accompanying diagram, $\triangle QRS$ is similar to $\triangle LMN$, $RQ = 30$, $QS = 21$, $SR = 27$, and $LN = 7$. What is the length of \overline{ML} ? [Video: Similar triangles I, Example 1]

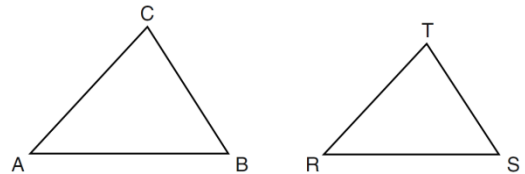


- 3) If the surface area of a sphere is 144π square centimeters, what is the length of the diameter of the sphere, in centimeters?

[Video: Lateral and surface area, Example 3]



- 7) In the diagram below, $\triangle ABC \sim \triangle RST$.



Which statement is *not* true?

- 1) $\angle A \cong \angle R$
- 2) $\frac{AB}{RS} = \frac{BC}{ST}$
- 3) $\frac{AB}{BC} = \frac{ST}{RS}$
- 4) $\frac{AB + BC + AC}{RS + ST + RT} = \frac{AB}{RS}$

- 4) A rectangular prism has a base with a length of 25, a width of 9, and a height of 12. A second prism has a square base with a side of 15. If the volumes of the two prisms are equal, what is the height of the second prism?

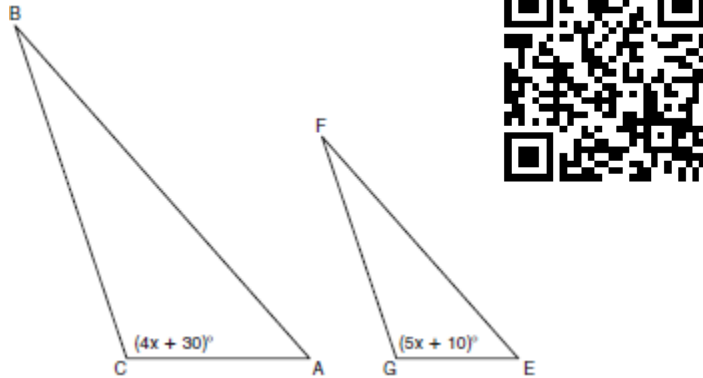
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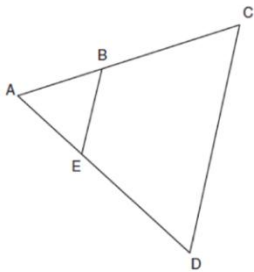
8) In the diagram below, $\triangle ABC \sim \triangle EFG$, $m\angle C = 4x + 30$, and $m\angle G = 5x + 10$. Determine the value of x .

[Video: Similar triangles I, Example 3]



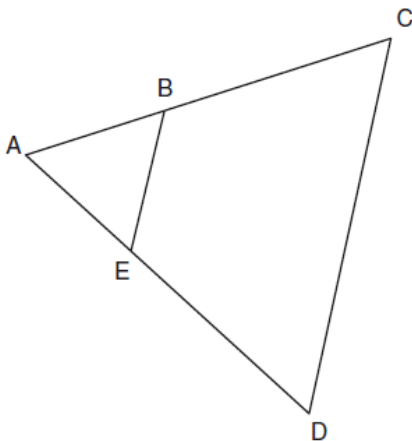
9) Given: $EB \parallel DC$ Prove: $\triangle ABE \sim \triangle ACD$

[Video: Similar triangles II, Example 3]



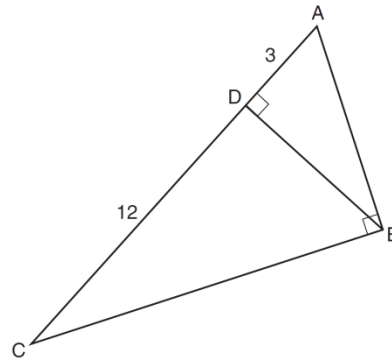
10) In the diagram below of $\triangle ACD$, E is a point on \overline{AD} and B is a point on \overline{AC} , such that $\overline{EB} \parallel \overline{DC}$. If $AE = 3$, $ED = 6$, and $DC = 15$, find the length of \overline{EB} .

[Video: Similar triangles III, Example 1]



11) In right triangle ABC shown in the diagram below, altitude \overline{BD} is drawn to hypotenuse \overline{AC} , $CD = 12$, and $AD = 3$. What is the length of \overline{AB} ?

[Video: Similar triangles IV, Example 2]



12) The base of an isosceles triangle is 5 and its perimeter is 11. The base of a similar isosceles triangle is 10. What is the perimeter of the larger triangle?

[Video: Similar triangles VI, Example 1]



13) Triangle RST is similar to $\triangle XYZ$ with $RS = 3$ inches and $XY = 2$ inches. If the area of $\triangle RST$ is 27 square inches, determine and state the area of $\triangle XYZ$, in square inches.

[Video: Similar triangles VI, Example 2]

