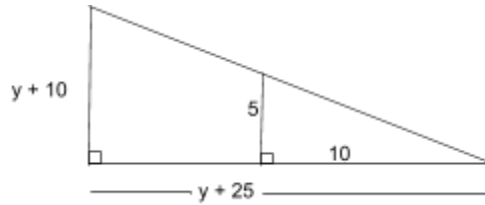


Math 2: Semester 1 FINAL REVIEW: Multiple Choice Section

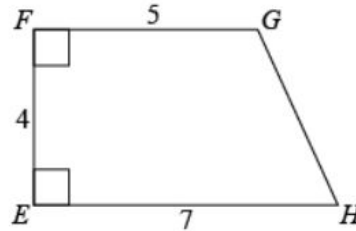
1. Solve for y .

- a. $y = 20$
- b. $y = 10$
- c. $y = 5$
- d. $y = 100$



2. Calculate the area of trapezoid FEHG.

- a. 33.4 units^2
- b. 24 units^2
- c. 48 units^2
- d. 50 units^2



3. Calculate the perimeter of the trapezoid FEHG.

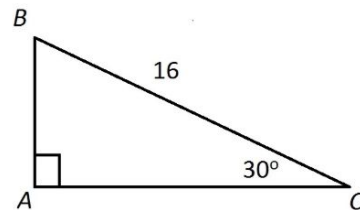
- a. 24.5 units
- b. 30.8 units
- c. 45.2 units
- d. 20.5 units

4. Only sophomores and juniors are allowed to take the graphic design class at Shelby High School. When the principal randomly selects a student in the graphic design class to create the yearbook, there is a $\frac{1}{4}$ chance of selecting a sophomore. If there are 9 sophomores in the class, how many juniors there?

- a. 27 juniors in the class
- b. 36 juniors in the class
- c. 20 juniors in the class
- d. 15 juniors in the class

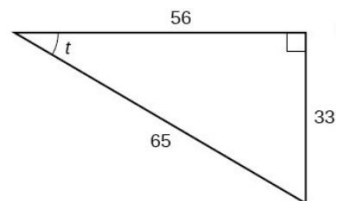
5. Examine the triangle below at right. Determine the measures of AC.

- a. $AC = 16\sqrt{3}$
- b. $AC = 2\sqrt{2}$
- c. $AC = 12$
- d. $AC = 8\sqrt{3}$



6. Use any trigonometric ratio of your choice to calculate the measure of $\angle t$.

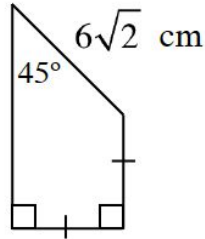
- a. $\angle t = 30.5^\circ$
- b. $\angle t = 50.8^\circ$
- c. $\angle t = 53.5^\circ$
- d. $\angle t = 34.2^\circ$



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7. Find the area of the polygon at right.

- a. 68 cm^2
- b. 36 cm^2
- c. 54 cm^2
- d. 93 cm^2

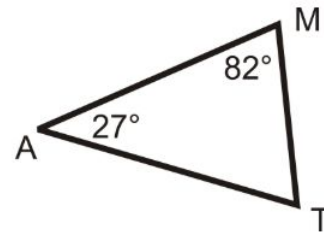


8. Find the perimeter of the polygon at right.

- a. $36 + \sqrt{2} \text{ cm}$
- b. $24 + 6\sqrt{2} \text{ cm}$
- c. $50 + 6\sqrt{2} \text{ cm}$
- d. none of the above

9. In $\triangle AMT$ at right, what is the measure of $\angle T$?

- a. $\angle T = 59^\circ$
- b. $\angle T = 50^\circ$
- c. $\angle T = 71^\circ$
- d. $\angle T = 90^\circ$

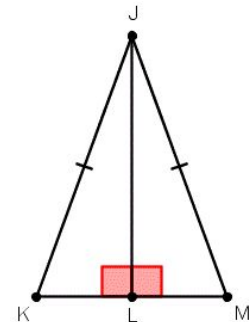


10. In $\triangle AMT$ at right, which side has the longest length?

- a. AT
- b. AM
- c. MT
- d. cannot be determined

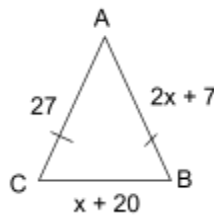
11. For the diagram below, if the triangles are congruent, determine the value of JK, when $LM = 7 \text{ cm}$, $JL = 24 \text{ cm}$. If there is not enough information to determine the value of x, state, "cannot be determined."

- a. $JK = 25 \text{ cm}$
- b. $JK = 50 \text{ cm}$
- c. $JK = 100 \text{ cm}$
- d. cannot be determined



12. The triangle at right, $\triangle ABC$, is isosceles. Determine the perimeter of $\triangle ABC$.

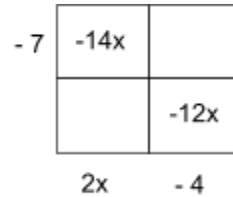
- a. 10 units
- b. 27 unit
- c. 90 units
- d. 84 units



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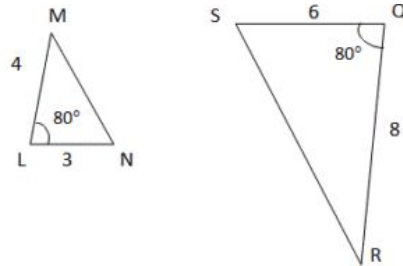
13. Rewrite the area as a product and a sum.

- a. $(2x + 4)(3x + 7) = 12x^2 - 9x + 28$
- b. $(2x - 4)(3x - 7) = 6x^2 - 26x + 28$
- c. $(2x + 4)(3x + 7) = 2x^2 - 9x + 12$
- d. $(2x + 4)(3x + 7) = x^2 - 9x - 28$



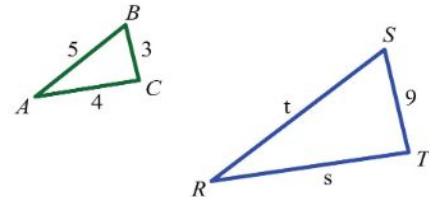
14. Use the triangles at right to answer the following questions. Are the triangles similar? How do you know they are similar?

- a. $\triangle LMN \sim \triangle QRS$ by SAS~
- b. $\triangle LMN \sim \triangle QRS$ by AA~
- c. $\triangle LMN \sim \triangle QRS$ by SS~
- d. The triangles are not similar.



15. $\triangle ABC \sim \triangle RTS$ Determine the length of t and s.

- a. $t = 20, s = 40$
- b. $t = 15, s = 12$
- c. $t = 12, s = 22$
- d. $t = 13, s = 3$



16. Rewrite the expression $(3x + 9)(x - 5)$ as a sum.

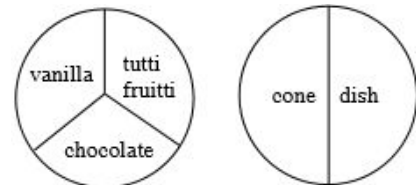
- a. $6x^2 - 9x - 28$
- b. $5x^2 - 10x - 45$
- c. $3x^2 - 6x - 45$
- d. $x^2 - 9x + 45$

17. Solve for x: $5x + 15 = 3(x - 1) - x$

- a. $x = -7$
- b. $x = -15$
- c. $x = 6$
- d. $x = -6$

18. Eliza likes to make daily events into games of chance.

For instance, before she went to buy ice cream at the local ice cream parlor, she created two spinners. The first has her three favorite flavors while the second has “cone” and “dish.” Eliza will order whatever comes up on the spinners. What is the probability that she will be eating tutti frutti ice cream from a dish?

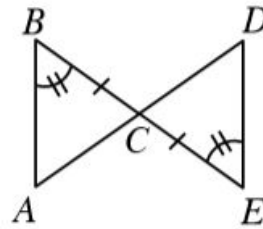
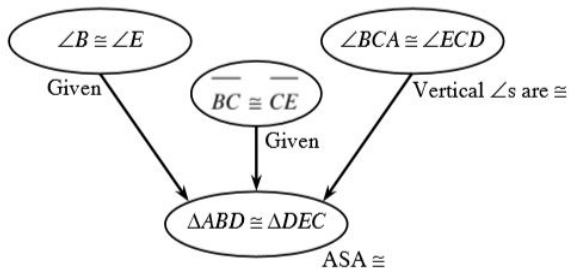


- a. $P(\text{tutti-fruitti and dish}) = 2/5$
- b. $P(\text{tutti-fruitti and dish}) = 1/6$
- c. $P(\text{tutti-fruitti and dish}) = 3/9$

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d. $P(\text{tutti-fruitti and dish}) = 3/5$

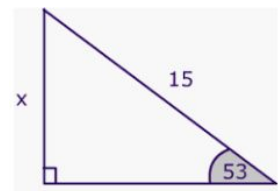
19. Provide the missing reason in the proof below to show that the triangles are congruent.



- a. $\angle BCA \cong \angle ECD$; vertical angles are \cong
- b. $\angle BCA \cong \angle ECD$; alternate interior angles are \cong
- c. $\angle BCA \cong \angle ECD$; alternate interior angles are \cong
- d. $\angle BCA \cong \angle ECD$; given

20. Determine the approximate length of x .

- a. $x = 15$
- b. $x = 12$
- c. $x = 20$
- d. $x = 18$



21. Joaquin is going out to lunch. The “Sandwich-Cookie-Combo Special” is his choice of a type of sandwich and a type of cookie. There are five types of sandwiches: turkey, ham, roast beef, peanut butter, and cucumber. There are three types of cookies: chocolate chip, snickerdoodle, and oatmeal. Assume all choices are made randomly. What is the probability that Joaquin picks a Combo Special without meat.

- a. $P(\text{no meat}) = 1/15$
- b. $P(\text{no meat}) = 3/15$
- c. $P(\text{no meat}) = 2/5$
- d. $P(\text{no meat}) = 1/2$

22. In the figure on the right, lines m and n are parallel. Solve for x and find $m \angle A$.

- a. $\angle A = 59^\circ$
- b. $\angle A = 79^\circ$
- c. $\angle A = 101^\circ$
- d. $\angle A = 125^\circ$

