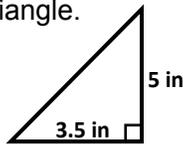


TMT Formula Finder 20 ACT Prep V1

1. Find the area of the right triangle.

$$A = \frac{1}{2} \text{base} \cdot h$$



2. A roundabout has a diameter of 10 m. How far would a car travel if it went around the whole roundabout?

$$C = 2\pi r \text{ OR } C = \pi d$$

3. A box at the post office has dimensions of 2" x 10" x 10". How many square inches of wrapping paper are needed to cover the box?

$$SA = 2lw + 2lh + 2wh$$

4. Driving at 30 mph, it takes 30 min to get to school. If Amy drove 5 mph faster, how long would it take her to get to school?

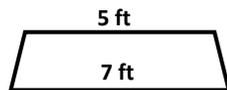
$$d = r \cdot t \text{ OR } r = \frac{d}{t}$$

5. A 25-foot ladder is placed so that the top is exactly the height of a tree. If the tree is 24 feet high, how far is the base of the ladder from the tree?

$$a^2 + b^2 = c^2$$

6. What is the height of the following trapezoid if it has an area of 15 ft²?

$$A = \left(\frac{b_1 + b_2}{2}\right) h$$



7. On a standard (x, y) coordinate plane, City A is located at (2, 10) and City C is located at (-3, -2). What are the coordinates of City B, located exactly halfway between them?

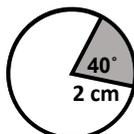
$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

8. A certain can has a height of 4.5 in and a radius of 2 in. How much liquid can it hold?

$$V = \pi r^2 h$$

9. What is the area of the shaded part of the circle?

$$A = \left(\frac{\text{deg}}{360}\right) \cdot \pi r^2$$



10. Describe the line that goes through (1, 5) and (3, 13).

$$y - y_1 = m(x - x_1)$$

11. If a circle has an inscribed angle of 40°, what is the circle's corresponding central angle?

$$\text{inscribed angle} = \frac{1}{2} \text{central angle}$$

12. A circular field with a radius of 10 yards is divided into slices, one with a central angle of 80°. If fencing was put around the perimeter of this section, how much would be needed?

$$S = \theta r$$

13. What are the x-intercepts of the parabola $y = 2x^2 + 3x - 20$?

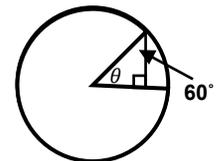
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

14. Write the equation of a circle with a radius of 5 cm and a center at (3, 4).

$$r^2 = (x - h)^2 + (y - k)^2$$

15. Find θ in radians:

$$\text{degrees} \cdot \left(\frac{\pi}{180}\right) = \text{radians}$$

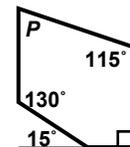


16. In the (x, y) coordinate plane, how far is A(-5, 2) from B(6, 11)?

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

17. Find angle P.

$$\text{sum int. angles} = 180^\circ (n - 2)$$



18. A school decides to select 15 random students from a group of 150 seniors to represent the school. How many different groups of students could they select?

$$nCr = \frac{n!}{(n-r)!r!}$$

19. While building a house of cards, two cards are situated so that their tops form an angle of 145°. If both cards are 4 in tall, what is the distance between the base of each card?

$$c^2 = a^2 + b^2 - 2ab \cos C$$

20. A room with the following floor plan requires carpeting. How many square feet of carpet is required?

$$A = \frac{1}{2} ab \sin C$$

