

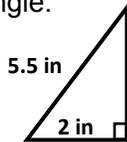
TMT Formula Finder 20 ACT Prep V2

1. A planet with a circular path around the sun is 58 million km from the sun. How far does the planet travel in one full orbit?

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

2. Find the missing leg of the triangle:

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



3. What is the area of the largest triangle that can be made with an 8.5" x 11" sheet of paper?

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

4. Cam bikes 14 miles in 4 hours. Ronda bikes 12 miles in 3 hours. Who bikes faster?

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

5. A rectangular cake is 3 in tall, 10 in wide, and 12 in long. If Leo wants to cover every single surface of the cake with frosting, what is the area he will need to cover?

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

6. What is the area of a trapezoid that has bases of 2 ft and 3 ft and a height of 2 ft?

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

7. The volume of a cylindrical can is 150 cm³. What is the height if the can's radius is 5 cm?

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

8. The remains of a cheesecake with a radius of 2.5 in forms an angle of 230°. What is the area of the top of the remaining cheesecake?

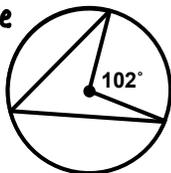
$$A = \left(\frac{\text{deg}}{360}\right) \pi r^2$$

9. A local park is located at (3, 5) and Divya's house is located at (12, -10). If Divya's house is the midpoint between the park and Adam's house, where is Adam's house?

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

10. Find the inscribed angle for the circle shown:

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



11. A child riding on a merry-go-round chooses a horse 7 feet from the center of the ride. If the child's path so far makes a central angle of 23°, how far has the child traveled?

$$S = \theta r$$

12. Write the equation for a line with a slope of $\frac{2}{3}$ that goes through (7, -2).

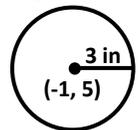
$$y - y_1 = m(x - x_1)$$

13. Emily knows that 450° is a full circle and a quarter. How much is that in radians?

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

14. Write the equation for the following circle:

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

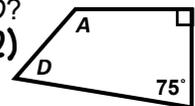


15. Determine the roots of $y = 4x^2 + 11x - 3$.

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

16. What is the sum of A and D?

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

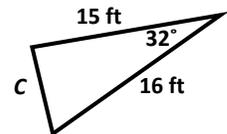


17. In the standard (x, y) coordinate plane, Bill's house is at the origin and Jeremiah's house is located at (-4, 2.5). How far is it from Bill's house to Jeremiah's?

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

18. Find side C:

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



19. An isosceles triangle has two sides of length 14 cm with an angle of 108° between them. What is the area of the triangle?

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

20. License plates in City Z have 2 letters, A through Z, followed by 4 numbers, 0 through 9. If letters and numbers can be repeated, how many different license plates can be made?

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