17. Point M divides $\overline{AB}$ so that $AM : MB = 1 : 2$. If A has coordinates $(-1, -3)$ and B has coordinates $(8, 9)$, what are the coordinates of M?

18. What is an equation of the image of the line $y = \frac{3}{2}x - 4$ after a dilation of a scale factor of $\frac{3}{4}$ centered at the origin?

19. Which three-dimensional figure will result when a rectangle 6 inches long and 5 inches wide is continuously rotated about the longer side?

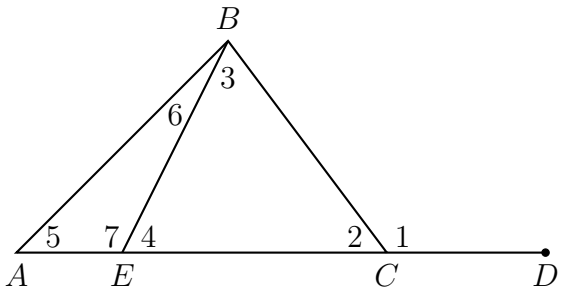
    (a) a rectangular prism with a length of 6 inches, width of 6 inches, and height of 5 inches

    (b) a rectangular prism with a length of 6 inches, width of 5 inches, and height of 5 inches

    (c) a cylinder with a radius of 5 inches and a height of 6 inches

    (d) a cylinder with a radius of 6 inches and a height of 5 inches

20. In the diagram below of triangle ABC, $\overline{AC}$ is extended through point C to point D, and $\overline{BE}$ is drawn to $\overline{AC}$.



Which equation is always true?

(a) $\angle 1 = m\angle 3 + m\angle 2$

(b) $\angle 5 = m\angle 3 - m\angle 2$

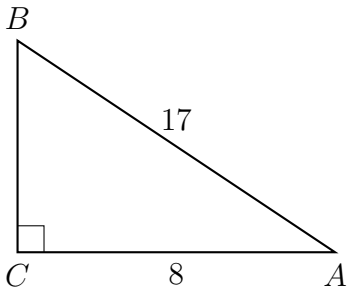
(c) $\angle 6 = m\angle 3 - m\angle 2$

(d) $\angle 7 = m\angle 3 + m\angle 2$

21. In right triangle ABC, $m\angle C = 90°$ and $AC \neq BC$. Which trigonometric ratio is equivalent to $\sin B$?

(a) $\cos A$
(b) $\cos B$
(c) $\tan A$
(d) $\tan B$

22. In the diagram below of right triangle ABC, $AC = 8$, and $AB = 17$.



Which equation would determine the value of angle A?

(a) $\sin A = \frac{8}{17}$
(b) $\tan A = \frac{8}{15}$
(c) $\cos A = \frac{15}{17}$
(d) $\tan A = \frac{15}{8}$

23. Which equation represents a line that is perpendicular to the line represented by

$y = \frac{2}{3}x + 1$?

(a) $3x + 2y = 12$
(b) $3x - 2y = 12$
(c) $y = \frac{3}{2}x + 2$
(d) $y = -\frac{2}{3}x + 4$