

Question 5:

Which of the following pairs could be coordinates of the focal points of this hyperbola?

$$\frac{x^2}{36} - \frac{y^2}{64} = 1$$

- A. (0, -10) and (0, 10)

Incorrect. Check the direction the hyperbola opens. The focal radius is 10, but location of points is incorrect.

- B. (-10, 0) and (10, 0)

Correct. $\sqrt{6^2 + 8^2} = \sqrt{100} = 10$, the focal radius. Hyperbola opens horizontally, so foci are located 10 units to the left and right of the center (0, 0)

- C. (0, -5.29) and (0, 5.29)

Incorrect. The focal radius is $\sqrt{a^2 + b^2}$, not $\sqrt{a^2 - b^2}$ and the focal points will be right and left of the center.

- D. (-5.29, 0) and (5.29, 0)

Incorrect. The focal radius is $\sqrt{a^2 + b^2}$, not $\sqrt{a^2 - b^2}$