

11 Advance Mathematics

Lesson – 6.3 Ellipse (Eg – 2&3)

Name in English –

Write an equation for an ellipse that satisfies each set of conditions.

1. Vertices at $(-6, 4)$ and $(12, 4)$, co-vertices at $(3, 12)$ and $(3, -4)$.

$$\begin{array}{ll} |a| = & h = \\ |b| = & k = \end{array}$$

Identify the equation of parabola

- a) $\frac{(x-3)^2}{81} + \frac{(y-4)^2}{64} = 1$
- b) $\frac{(x-9)^2}{9} + \frac{(y-8)^2}{16} = 1$
- c) $\frac{(y-3)^2}{81} + \frac{(x-4)^2}{64} = 1$
- d) $\frac{(y-4)^2}{81} + \frac{(x-3)^2}{64} = 1$

2. Vertices at $(-1, 11)$ and $(-1, 1)$, co-vertices at $(-4, 6)$ and $(2, 6)$.

$$\begin{array}{ll} |a| = & h = \\ |b| = & k = \end{array}$$

Identify the equation of parabola

- a) $\frac{(x-6)^2}{25} + \frac{(y+1)^2}{9} = 1$
- b) $\frac{(x+1)^2}{25} + \frac{(y-6)^2}{9} = 1$
- c) $\frac{(y-6)^2}{25} + \frac{(x+1)^2}{9} = 1$
- d) $\frac{(y+1)^2}{25} + \frac{(x-6)^2}{9} = 1$

3. Center at $(-2, 6)$, vertices at $(-2, 16)$, co-vertices at $(1, 6)$.

$$|a| =$$

$$h =$$

$$|b| =$$

$$k =$$

Identify the equation of parabola

a) $\frac{(x+2)^2}{100} + \frac{(y-6)^2}{9} = 1$

b) $\frac{(x-6)^2}{100} + \frac{(y+2)^2}{9} = 1$

c) $\frac{(y-6)^2}{100} + \frac{(x+2)^2}{9} = 1$

d) $\frac{(y+2)^2}{100} + \frac{(x-6)^2}{9} = 1$

4. Center at $(3, -4)$, vertices at $(8, -4)$, co-vertices at $(3, -2)$.

$$|a| =$$

$$h =$$

$$|b| =$$

$$k =$$

Identify the equation of parabola

a) $\frac{(x-3)^2}{25} + \frac{(y-4)^2}{4} = 1$

b) $\frac{(x-3)^2}{25} + \frac{(y+4)^2}{4} = 1$

c) $\frac{(y-3)^2}{25} + \frac{(x-4)^2}{4} = 1$

d) $\frac{(y+4)^2}{25} + \frac{(x-3)^2}{4} = 1$