

11 Advance Mathematics

Lesson-6.1(Eg-4)

Name in English

For the given parabolas find the followings.

1. vertex (0, 1) , focus (0, 4)

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $y = \frac{1}{12}(x - 0)^2 + 1$

b) $y = -\frac{1}{12}(x - 0)^2 + 1$

c) $x = \frac{1}{12}(y - 0)^2 + 1$

d) $x = -\frac{1}{12}(y - 0)^2 + 1$

2. Vertex (1, 8) , directrix $y = 3$

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $y = -\frac{1}{20}(x - 1)^2 + 8$

b) $y = \frac{1}{20}(x - 1)^2 + 8$

c) $x = -\frac{1}{20}(y - 1)^2 + 8$

d) $x = \frac{1}{20}(y - 1)^2 + 8$

3. Focus $(-2, -4)$, directrix $x = -6$

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $x = -\frac{1}{8}(y + 4)^2 - 4$

b) $x = \frac{1}{8}(y + 4)^2 - 4$

c) $y = -\frac{1}{8}(x + 4)^2 - 4$

d) $y = \frac{1}{8}(x + 4)^2 - 4$

4. Focus $(2, 4)$, directrix $x = 10$

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $y = -\frac{1}{16}(x - 4)^2 + 6$

b) $y = \frac{1}{16}(x - 4)^2 + 6$

c) $x = -\frac{1}{16}(y - 4)^2 + 6$

d) $x = \frac{1}{16}(y - 4)^2 + 6$

5. Vertex $(-6, 0)$, directrix $x = 2$

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $x = -\frac{1}{64}(y - 0)^2 - 6$

b) $x = \frac{1}{64}(y - 0)^2 - 6$

c) $y = \frac{1}{64}(x - 0)^2 - 6$

d) $y = -\frac{1}{64}(x - 0)^2 - 6$

6. vertex $(9, 6)$, focus $(9, 5)$

Identify the type of equation

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

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

Find the followings

$a =$

$h =$

$k =$

Identify the final equation

a) $x = -\frac{1}{4}(y - 9)^2 + 6$

b) $x = \frac{1}{4}(y - 9)^2 + 6$

c) $y = \frac{1}{4}(x - 9)^2 + 6$

d) $y = -\frac{1}{4}(x - 9)^2 + 6$