

King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math 002 - Term 132
Recitation (10.1)

Question 1: Write an equation for the parabola with following conditions.
 Vertex at $(1,2)$, directrix $x = 4$.

Answer: $(y - 2)^2 = -12(x - 1)$

Question 2:

Find the equation of the parabola with focus at $(-3,2)$ and vertex at $(-3,-1)$.

Answer: $(x + 3)^2 = 12(y + 1)$ OR $x^2 - 12y + 6x - 3 = 0$

Question 3: The directrix of the parabola $y = \frac{1}{8}x^2 - \frac{1}{2}x + \frac{3}{2}$ is given by

- A) $y = \frac{3}{2}$ B) $x = \frac{-3}{2}$ C) $y = -\frac{1}{2}$
 D) $y = -1$ E) $x = 2$

Answer: $y = -1$

Question 4

If $y = m$ is the equation of the directrix of the parabola $(3x + 6)^2 = 18y - 36$ then

- A) $m = 2$ B) $m = -\frac{3}{2}$ C) $m = -\frac{1}{2}$
 D) $m = \frac{3}{2}$ E) $m = \frac{5}{2}$

Answer: $m = \frac{3}{2}$

Question5: Which of the following points lies on the parabola with vertex $(1,1)$ and focus $(1,3)$.

- A) $(0,1)$ B) $(2,5)$ C) $(5,3)$
 D) $\left(\frac{9}{8}, 2\right)$ E) $(-1,3)$

Answer: C) $(5,3)$