King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math 002 - Term 142
Recitation (10.1)

Question 1:
Find the equation of the parabola with directrix $x = 4$ and focus $(0, -3)$

Answer: $(y + 3)^2 = -8(x - 2)$

Question 2
Find the equation in standard form of the parabola that has vertex $(-4, 1)$, has its axis of symmetry parallel to the $x -$ axis, and passes through the point $(4,\ 3)$.

Answer: $(y - 1)^2 = \dfrac{1}{2}(x + 4)$

Question 3
Find the vertex, focus, and directrix of the parabola given by the equation:

$6x - 3y^2 - 12y + 4 = 0$.

Answer: $vertex = (-\dfrac{8}{3}, -2)$ $\qquad focus = \left(-\dfrac{13}{6}, -2\right)$ $\qquad Directrix:\ x = -\dfrac{19}{6}$

Question 4
If $y = m$ is the equation of the directrix of the parabola $(3x + 6)^2 = 18y - 36$ then

A) $m = 2$

B) $m = -\dfrac{3}{2}$

C) $m = -\dfrac{1}{2}$

D) $m = \dfrac{3}{2}$

E) $m = \dfrac{5}{2}$

Answer: $\Rightarrow$ $\boxed{y = \dfrac{3}{2}}$

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) $\left(\dfrac{9}{8}, 2\right)$

E) $(-1,3)$

Answer: $(5,3)$