

Homework #71

Answers

From Houghton-Mifflin Precalculus 3rd Edition

p701-702:

29) vertex: (0, 0), focus: (0, -3/2), vertical axis

$$p = -3/2, 4p = -6 \quad x^2 = -6y$$

31) vertex: (0, 0), focus: (-2, 0), horizontal axis

$$p = -2, 4p = -8 \quad y^2 = -8x$$

34) vertex: (0, 0), directrix: $y = 3$, vertical axis

$$p = -3, 4p = -12 \quad x^2 = -12y$$

36) vertex: (0, 0), directrix: $x = -3$, horizontal axis

$$p = 3, 4p = 12 \quad y^2 = 12x$$

43) vertex: (5, 2), focus: (3, 2), horizontal axis

$$p = -2, 4p = -8 \quad (y - 2)^2 = -8(x - 5)$$

45) vertex: (0, 4), directrix: $y = 2$, vertical axis

$$p = 2, 4p = 8 \quad x^2 = 8(y - 4)$$

p170:

$$\begin{array}{r|l} 36) \text{ a) } 2 & 1 \ 0 \ -4 \ 0 \ 3 \ 0 \\ & 2 \ 4 \ 0 \ 0 \ 6 \\ \hline & 1 \ 2 \ 0 \ 0 \ 3 \ \underline{6} \\ & g(2) = 6 \end{array}$$

$$\begin{array}{r|l} \text{b) } -4 & 1 \ 0 \ -4 \ 0 \ 3 \ 0 \\ & -4 \ 16 \ -48 \ 192 \ -780 \\ \hline & 1 \ -4 \ 12 \ -48 \ 195 \ \underline{-780} \\ & g(-4) = -780 \end{array}$$

$$\begin{array}{r|l} \text{c) } 3 & 1 \ 0 \ -4 \ 0 \ 3 \ 0 \\ & 3 \ 9 \ 15 \ 45 \ 144 \\ \hline & 1 \ 3 \ 5 \ 15 \ 48 \ \underline{144} \\ & g(3) = 144 \end{array}$$

$$\begin{array}{r|l} \text{d) } -1 & 1 \ 0 \ -4 \ 0 \ 3 \ 0 \\ & -1 \ -1 \ 5 \ -5 \ 2 \\ \hline & 1 \ -1 \ -5 \ 5 \ -2 \ \underline{2} \\ & g(-1) = 2 \end{array}$$