

Assignment

Date _____ Period _____

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Use the information provided to write the vertex form equation of each parabola.

1) Vertex: $(-3, -2)$, Focus: $\left(-\frac{25}{8}, -2\right)$

2) Vertex: $(0, -5)$, Focus: $\left(\frac{1}{4}, -5\right)$

3) Vertex: $(5, 3)$, Focus: $\left(\frac{181}{36}, 3\right)$

4) Vertex: $(4, -4)$, Focus: $\left(\frac{17}{4}, -4\right)$

5) Vertex: $(7, 0)$, Focus: $\left(\frac{85}{12}, 0\right)$

6) Vertex: $(-5, 5)$, Focus: $\left(-\frac{361}{72}, 5\right)$

7) Vertex: $(7, -7)$, Focus: $\left(\frac{27}{4}, -7\right)$

8) Vertex: $(-3, 4)$, Focus: $\left(-\frac{7}{2}, 4\right)$

9) Vertex: $(3, -5)$, Focus: $\left(\frac{85}{28}, -5\right)$

10) Vertex: $(-6, 5)$, Focus: $\left(-\frac{119}{20}, 5\right)$

11) Vertex: $(-1, 4)$, Directrix: $y = \frac{15}{4}$

12) Vertex: $(-4, 7)$, Directrix: $y = \frac{29}{4}$

13) Vertex: $(8, -5)$, Directrix: $y = -\frac{17}{4}$

14) Vertex: $(-6, 0)$, Directrix: $x = -\frac{19}{3}$

15) Vertex: $(7, 3)$, Directrix: $y = \frac{25}{8}$

16) Focus: $(-2, -\frac{55}{8})$, Directrix: $y = -\frac{57}{8}$

17) Focus: $\left(1, -\frac{37}{4}\right)$, Directrix: $y = -\frac{35}{4}$

18) Focus: $\left(9, \frac{41}{4}\right)$, Directrix: $y = \frac{39}{4}$

19) Focus: $\left(-10, -\frac{119}{20}\right)$, Directrix: $y = -\frac{121}{20}$

20) Focus: $\left(-6, -\frac{49}{4}\right)$, Directrix: $y = -\frac{23}{4}$

Answers to Assignment (ID: 1)

1) $x = -2(y + 2)^2 - 3$

5) $x = 3y^2 + 7$

9) $x = 7(y + 5)^2 + 3$

13) $y = -\frac{1}{3}(x - 8)^2 - 5$

17) $y = -(x - 1)^2 - 9$

20) $y = -\frac{1}{13}(x + 6)^2 - 9$

2) $x = (y + 5)^2$

6) $x = -18(y - 5)^2 - 5$

10) $x = 5(y - 5)^2 - 6$

14) $x = \frac{3}{4}y^2 - 6$

18) $y = (x - 9)^2 + 10$

3) $x = 9(y - 3)^2 + 5$

7) $x = -(y + 7)^2 + 7$

11) $y = (x + 1)^2 + 4$

15) $y = -2(x - 7)^2 + 3$

19) $y = 5(x + 10)^2 - 6$

4) $x = (y + 4)^2 + 4$

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

12) $y = -(x + 4)^2 + 7$

16) $y = 2(x + 2)^2 - 7$