

Parabolas1. Focus $(0, -1/40)$ Directrix: $y = 1/40$

2. $x = \frac{1}{16}y^2$

3. $y = \frac{1}{24}x^2$

Translated Parabolas

1. V $(1, -3)$ F $(1\frac{1}{16}, -3)$ or $(\frac{17}{16}, -3)$
Directrix: $x = \frac{15}{16}$

2. $y = -\frac{1}{24}(x-9)^2 - 5$

3. $x = -\frac{1}{12}(y-4)^2 - 2$

4. $y = \frac{1}{12}(x-8)^2 - 1$

Circles

1. center $(-3, 12)$ $r = \sqrt{72} = 6\sqrt{2}$

2. $(x-2)^2 + (y+5)^2 = 625$

3. $(x-12)^2 + (y-23)^2 = 65$

4. $(x+7)^2 + (y+1)^2 = 13$

Ellipses

1. V: $(0, \pm 11)$ Co-V: $(\pm 7, 0)$ Foci $(0, \pm \sqrt{72})$

2. Major Axis = 16 Minor Axis = $2\sqrt{15}$ 3. $\frac{x^2}{81} + \frac{y^2}{56} = 1$

4. $\frac{x^2}{16} + \frac{y^2}{160} = 1$

5. $\frac{x^2}{64} + \frac{y^2}{121} = 1$

Translated Ellipses

1. $\frac{(x-4)^2}{36} + \frac{(y-9)^2}{27} = 1$

2. $\frac{(x+3)^2}{100} + \frac{(y-5)^2}{36} = 1$

3. $\frac{(x-3)^2}{32} + \frac{(y-12)^2}{16} = 1$

4. V $(-21, 9)$ $(1, 9)$
Co-V $(-10, 17)$ $(-10, 1)$ F: $(-10 \pm \sqrt{57}, 9)$

Hyperbolas

1. V: $(0, \pm 14)$ F $(0, \pm \sqrt{485})$ $m = \pm \frac{14}{17}$ 2. $\frac{x^2}{121} - \frac{y^2}{104} = 1$

3. $\frac{y^2}{25} - \frac{x^2}{39} = 1$

4. $\frac{x^2}{36} - \frac{y^2}{81} = 1$

5. Use a sheet of graph paper

Translated Hyperbolas

1. V: $(-2, -4)$ $(16, -4)$
F $(-7 \pm \sqrt{117}, -4)$
 $m = \pm \frac{6}{9} = \pm \frac{2}{3}$

2. $\frac{(y-1)^2}{81} - \frac{(x+5)^2}{63} = 1$

3. $\frac{(x-14)^2}{25} - \frac{(y+10)^2}{64} = 1$

Parabolas

1. Focus: $(\frac{1}{12}, 0)$

Directrix: $x = -\frac{1}{12}$

2. $y = -\frac{1}{24}x^2$

3. $x = -\frac{1}{20}y^2$

Translated Parabolas

1. V: $(-1, 5)$ F: $(-1, 5\frac{1}{8})$ or $(-1, 4\frac{1}{8})$
DIRECTRIX: $y = 4\frac{7}{8}$ or $y = 3\frac{9}{8}$

2. $x = \frac{1}{12}(y+6)^2 + 2$

3. $y = -\frac{1}{48}(x+7)^2 + 3$

4. $x = -\frac{1}{8}(y-6)^2 + \frac{101}{12}$

Circles

1. Center: $(8, -3)$ $r = \sqrt{48} = 4\sqrt{3}$

2. $(x+1)^2 + (y-7)^2 = 1296$

3. $(x-18)^2 + (y-31)^2 = 52$

4. $(x-1)^2 + (y+6)^2 = 32$

Ellipses

1. V: $(\pm 9, 0)$ (O-V: $(0, \pm 6)$) Foci: $(\pm \sqrt{45}, 0)$

2. Major Axis = 28 Minor Axis = $2\sqrt{23}$

3. $\frac{x^2}{49} + \frac{y^2}{65} = 1$

4. $\frac{x^2}{50} + \frac{y^2}{225} = 1$

5. $\frac{x^2}{144} + \frac{y^2}{81} = 1$

Translated Ellipses

1. $\frac{(x-5)^2}{25} + \frac{(y-7)^2}{9} = 1$

2. $\frac{(x-9)^2}{64} + \frac{(y+3)^2}{30} = 1$

3. $\frac{(x+4)^2}{64} + \frac{(y-3)^2}{55} = 1$

4. V: $(6, 8)$ $(6, -16)$
(O-V): $(1, -4)$ $(11, -4)$

F: $(6, -4 \pm \sqrt{119})$

Hyperbolas

1. V: $(\pm 18, 0)$ F: $(\pm \sqrt{493}, 0)$ $m = \pm \frac{13}{18}$

2. $\frac{y^2}{49} - \frac{x^2}{32} = 1$

3. $\frac{x^2}{49} - \frac{y^2}{51} = 1$

4. $\frac{y^2}{4} - \frac{x^2}{121} = 1$

5. Use a sheet of graph paper

Translated Hyperbolas

1. V: $(-14, 3)$ $(2, 3)$

2. $\frac{(x-3)^2}{25} - \frac{(y+4)^2}{96} = 1$

3. $\frac{(x+9)^2}{64} - \frac{(y-12)^2}{49} = 1$

F: $(-6 \pm \sqrt{164}, 3)$

$m = \pm \frac{10}{8} = \pm \frac{5}{4}$

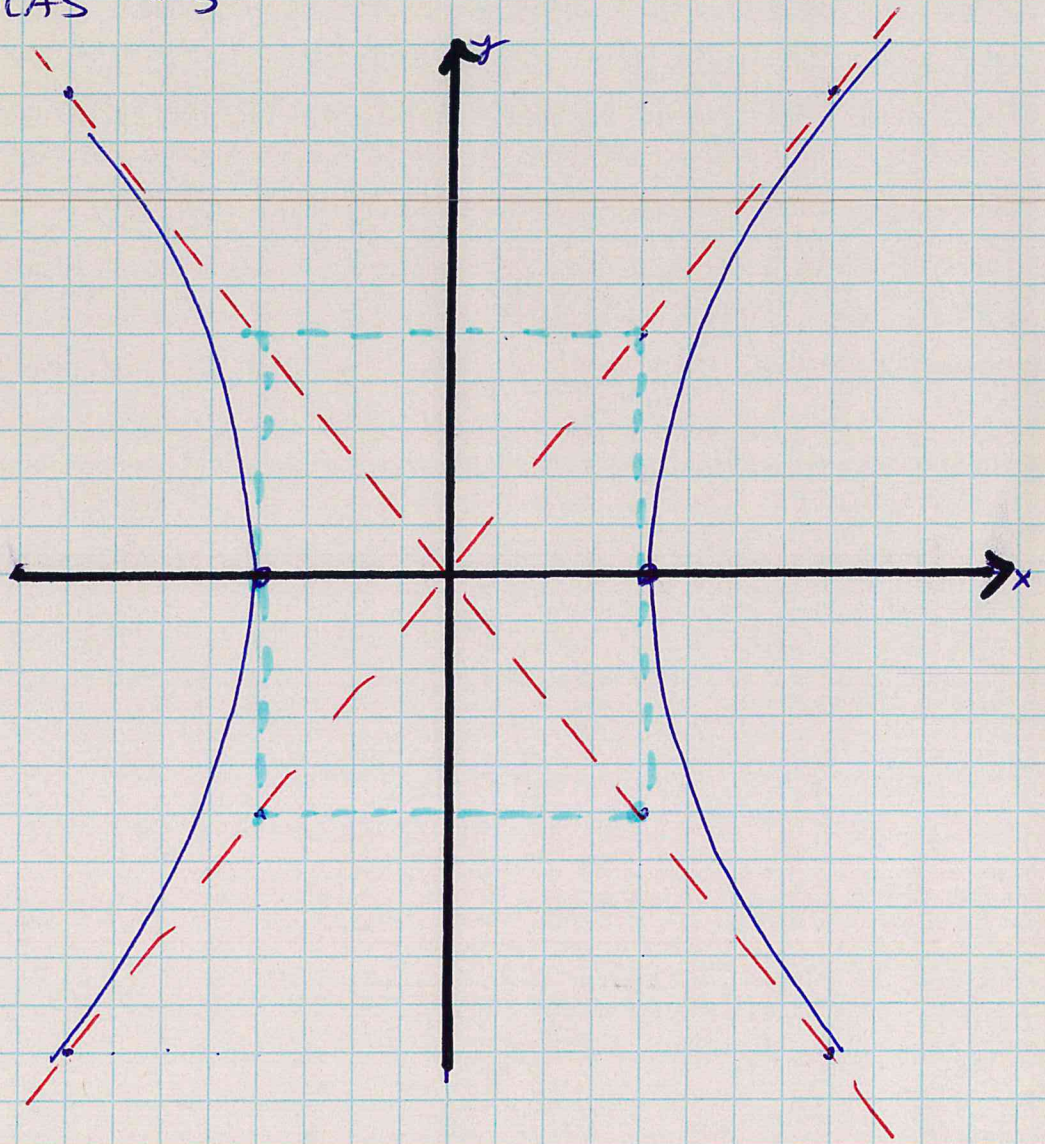
(A)

HYPERBOLAS #5

Center $(0,0)$

Vertices $(\pm 4, 0)$

$$m = \pm \frac{5}{4}$$



center $(0,0)$
Vertices $(0, \pm 4)$
 $m = \pm \frac{4}{3}$

Ⓑ HYPERBOLAS #5

