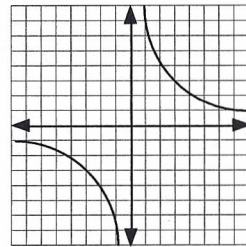


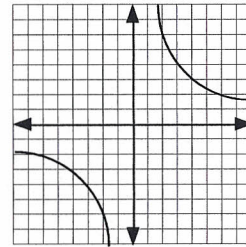
26A

Most decimal amounts are approximate.



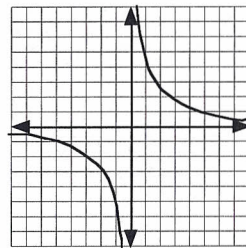
X	Y
1	8
2	4
4	2
8	1
-1	-8
-2	-4
-4	-2
-8	-1

1) $XY = 8$



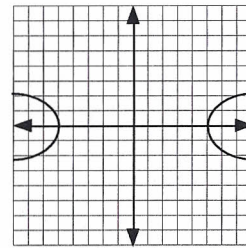
X	Y
2	6
3	4
6	2
-2	-6
-3	-4
-6	-2

2) $XY - 12 = 0$
 $XY = 12$



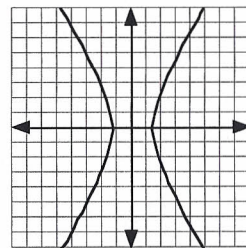
X	Y
1	5
2	5/2
4	5/4
5	1
-1	-5
-2	-5/2
-4	-5/4
-5	-1

3) $-XY = -5$
 $XY = 5$



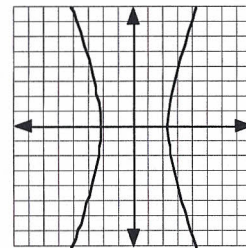
X	Y
±5	0
±5.5	±1
±6.7	±2

4) $X^2 - 5Y^2 = 25$



X	Y
±1.4	0
±1.8	±2
±2.7	±4
±3.7	±6

5) $3X^2 - Y^2 = 6$

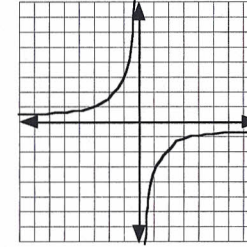


X	Y
±2.2	0
±2.6	±3
±3.2	±5
±4.2	±8

6) $5X^2 - 25 = Y^2$

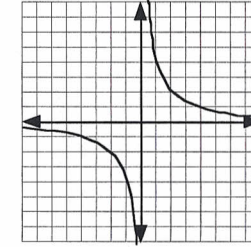
26B

Most decimal amounts are approximate.



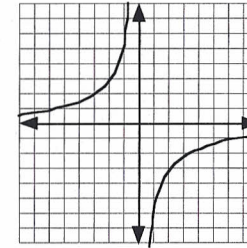
X	Y
-3	1
-1	3
1	-3
3	-1

1) $Y = \frac{-3}{X}$
 $XY = -3$



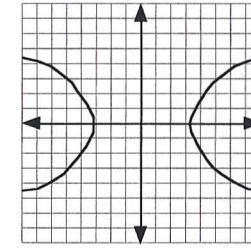
X	Y
1	4
2	2
4	1
-1	-4
-2	-2
-4	-1

2) $0 = 4 - XY$
 $XY = 4$



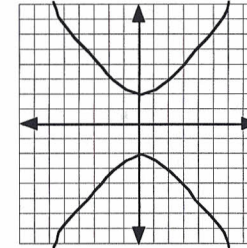
X	Y
1	-6
2	-3
6	-1
-1	6
-2	3
-6	1

3) $-3XY = 18$
 $XY = -6$



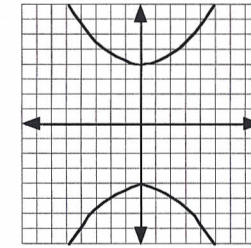
X	Y
±3.2	0
±4.2	±2
±6.5	±4

4) $\frac{1}{10}X^2 - \frac{1}{5}Y^2 = 1$
 $X^2 - 2Y^2 = 10$



X	Y
0	±2
±2	±3.2
±4	±5.3
±5	±6.4

5) $2Y^2 - 3X^2 = 8$



X	Y
0	±4
±2	±4.9
±4	±6.9

6) $Y^2 - 2X^2 = 16$

26C

1-2) $XY = 4$

X	Y
1	4
2	2
4	1
-1	-4
-2	-2
-4	-1

see graph

3-4) $XY = -6$

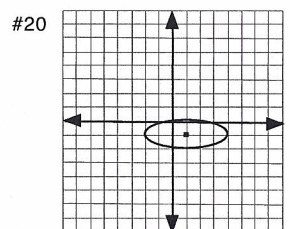
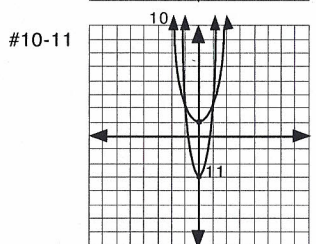
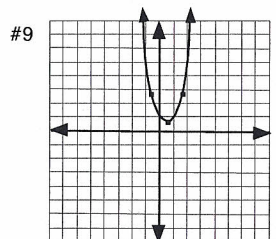
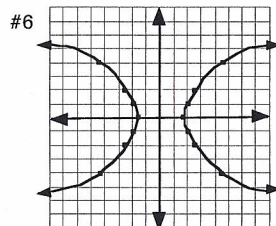
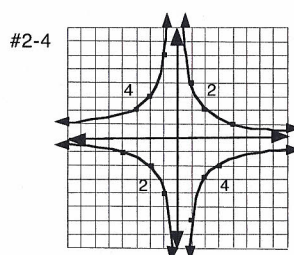
X	Y
1	-6
2	-3
3	-2
-1	6
-2	3
-3	2

see graph

5-6) $X^2 - Y^2 = 3$

X	Y
$\approx \pm 1.7$	0
± 2	1
$\approx \pm 2.7$	2
± 2	-1
$\approx \pm 2.7$	-2
± 4.4	4
± 4.4	-4

see graph



7) $\frac{-(-3)}{2(2)} = \frac{3}{4}$

8) $Y = 2(3/4)^2 - 3(3/4) + 2 = 7/8$

9) on the graph

10) $[1/3 Y = 2/3 X^2 + 1/3] \times 3$
 $Y = 2X^2 + 1$

11) $[2Y - 6X^2 = -6] \div 2$
 $Y = 3X^2 - 3$

12) $[5(X-1)^2 + 5(Y+2)^2 = 500] \div 5$
 $(X-1)^2 + (Y+2)^2 = 10^2$
 $C = (1, -2) \quad R = 10$

13) $(X-5)^2 + (Y+2)^2 = 9$

14-15) $[9X^2 + 9Y^2 - 36X - 36Y = 252] \div 9$
 $X^2 - 4X + 4 + Y^2 - 4Y + 4 = 28 + 8 = 36$
 $(X-2)^2 + (Y-2)^2 = 6^2$
 $C = (2, 2) \quad R = 6$

16) $AC^2 = [-2 - (-2)]^2 + [-2 - 5]^2 = 49$
 $AC = \sqrt{49} = 7$

17) $\left(\frac{-2-2}{2}, \frac{5-2}{2}\right) = (-2, 1\frac{1}{2})$

18) $Y = X + b \Rightarrow (3) = (-2) + b$
 $5 = b \quad Y = X + 5$

19) $X = 1, Y = -1 \quad C = (1, -1)$
 $Y = \pm 1$ from center of ellipse
 $X = \pm 3$

20) on the graph

26D

1-2) $XY = -10$

X	Y
1	-10
2	-5
5	-2
-1	10
-2	5
-5	2

see graph

3-4) $XY = 8$

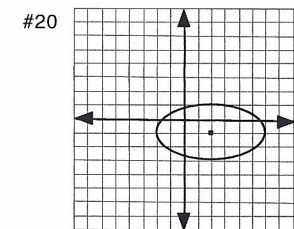
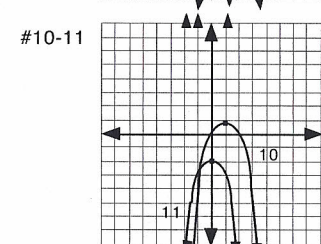
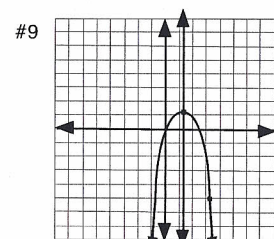
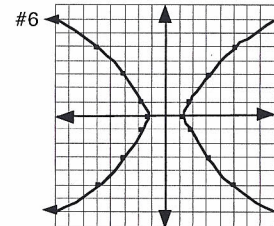
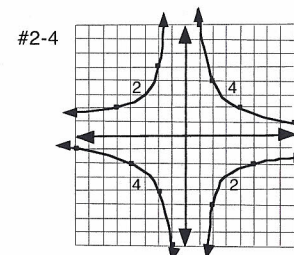
X	Y
1	8
2	4
4	2
8	1
-2	-4
-4	-2

see graph

5-6) $X^2 - Y^2 = 2$

X	Y
$\approx \pm 1.4$	0
$\approx \pm 1.7$	1
$\approx \pm 3.3$	3
$\approx \pm 5.2$	5

see graph



7) $\frac{-(-2)}{2(-3/4)} = \frac{4}{3}$

8) $Y = -3/4(4/3)^2 + 2(4/3) = 4/3$

9) on the graph

10) $-4Y = 4X^2 - 8X + 1 \Rightarrow Y = -X^2 + 2X - 1/4$
 $\frac{-(-2)}{2(-1)} = 1$
 $Y = -(1)^2 + 2(1) - 1/4 = 3/4$

11) $Y = -X^2 - 2$
vertex $(0, -2)$

12) $[2/3(X+2)^2 + 2/3(Y+2)^2 = 54] (3/2)$
 $(X+2)^2 + (Y+2)^2 = 9^2$
 $C = (-2, -2) \quad R = 9$

13) $(X-4)^2 + (Y-3)^2 = 8^2$

14-15) $X^2 + Y^2 - 2Y + 1 = 3 + 1$
 $(X-0)^2 + (Y-1)^2 = 2^2$
 $C = (0, 1) \quad R = 2$

16) $BC^2 = (-2-3)^2 + (-2-1)^2 = 25 + 9 = 34$
 $BC = \sqrt{34}$

17) $\left(\frac{-2+3}{2}, \frac{-2+1}{2}\right) = \left(\frac{1}{2}, -\frac{1}{2}\right)$

18) $2Y = -5X + 3 \Rightarrow Y = -5/2 X + 3/2$
 $m = -5/2$ so perpendicular is $2/5$
 $Y = 2/5 X + b \Rightarrow (2) = 2/5 (1) + b$
 $1\frac{3}{5} = b \quad Y = 2/5 X + 1\frac{3}{5}$

19) $X = 2, Y = -1 \quad C = (2, -1)$
 $Y = \pm 2$ from center of ellipse
 $X = \pm 4$

20) on the graph

26E

1-2) $XY = -12$

X	Y
2	-6
3	-4
6	-2
-2	6
-3	4
-6	2

see graph

3-4) $XY = 3$

X	Y
1/2	6
1	3
3	1
-1/2	-6
-1	-3
-3	-1

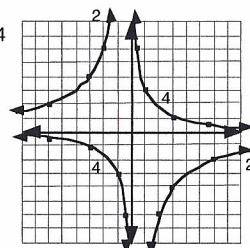
see graph

5-6) $3X^2 - 2Y^2 = 6$

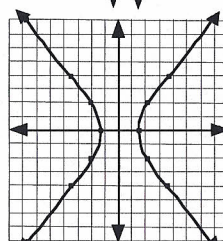
X	Y
$\approx \pm 1.4$	0
$\approx \pm 2.2$	± 2
$\approx \pm 3.6$	± 4
$\approx \pm 6.7$	± 8

see graph

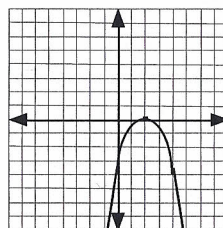
#2-4



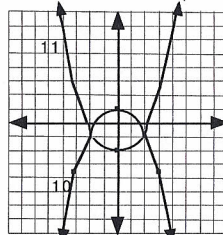
#6



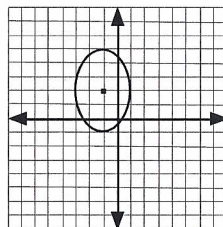
#9



#10-11



#20



7) $\frac{-4}{2(-1)} = 2$

8) $Y = -(2)^2 + 4(2) - 4 = 0$

9) on the graph

10) $Y = -1/2 X^2 + 1$

11) $[1/4 Y = 1/8 X^2 - 1/2] \cdot 4$
 $Y = 1/2 X^2 - 2$

12) $[1/2 (X + 2)^2 + (Y - 3)^2 = 32] \cdot 2$
 $(X + 2)^2 + (Y - 3)^2 = 64$ or 8^2
 $C = (-2, 3)$ $R = 8$

13) $(X + 2)^2 + (Y + 2)^2 = 5^2$

14-15) $[4X^2 - 32X + 64 + 4Y^2 - 24Y = 0] \div 4$
 $X^2 - 8X + 16 + Y^2 - 6Y + 9 = 9$
 $(X - 4)^2 + (Y - 3)^2 = 3^2$
 $C = (4, 3)$ $R = 3$

16) $CD^2 = [-2 - 4]^2 + [-2 - (-4)]^2 = 36 + 4 = 40$
 $CD = 2\sqrt{10}$

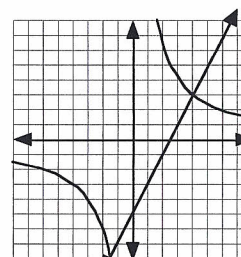
17) $\left(\frac{-2+4}{2}, \frac{-2-4}{2}\right) = (1, -3)$

18) $Y = 1/3 X - 3 \Rightarrow m = 1/3$
 $(1) = 1/3 (4) + b$
 $-1/3 = b$ $Y = 1/3 X - 1/3$

19) $C = (-1, 2)$
 $Y = \pm 3$ from center of ellipse
 $X = \pm 2$

20) on the graph

27A



1) $XY = 12$

$Y = 2X - 5$

Solutions: $(-1.5, -8), (4, 3)$

$X(2X - 5) = 12$

$2X^2 - 5X - 12 = 0$

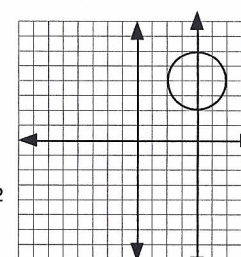
$(2X + 3)(X - 4) = 0$

$2X + 3 = 0$ $X - 4 = 0$

$X = -3/2$ $X = 4$

$(-3/2)Y = 12$ $(4)Y = 12$

$Y = -8$ $Y = 3$



2) $(X - 4)^2 + (Y - 4)^2 = 4$

$5X = 20$

$X = 4$

Solutions: $(4, 2), (4, 6)$

$(Y - 4)^2 = 4$

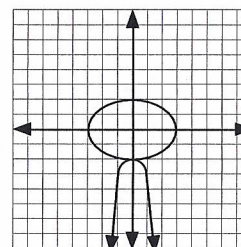
$Y^2 - 8Y + 16 = 4$

$Y^2 - 8Y + 12 = 0$

$(Y - 2)(Y - 6) = 0$

$Y - 2 = 0$ $Y - 6 = 0$

$Y = 2$ $Y = 6$



3) $4X^2 + 9Y^2 = 36$

$Y = -X^2 - 2 \Rightarrow -4X^2 - 4Y - 8 = 0$

Solution: $(0, -2)$

$4X^2 + 9Y^2 - 36 = 0$

$-4X^2 - 4Y - 8 = 0$

$9Y^2 - 4Y - 44 = 0$

$\frac{(-4) \pm \sqrt{(-4)^2 - 4(9)(-44)}}{2(9)}$

$Y \approx 2.44, -2$

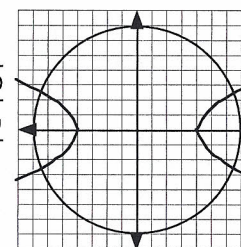
$(-2) = -X^2 - 2$

$X = 0$

$(2.44) = -X^2 - 2$

$-4.44 = X^2 \Rightarrow$

no real solution



$X^2 + Y^2 = 49$

$-X^2 + 4Y^2 = -16$

$5Y^2 = 33$

$Y \approx \pm 2.57$

$X^2 + (\pm 2.57)^2 = 49$

$X^2 = 42.4$

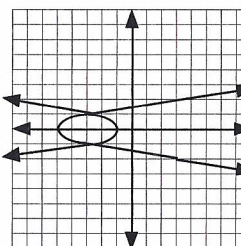
$X \approx \pm 6.5$

4) $X^2 - 4Y^2 = 16 \Rightarrow -X^2 + 4Y^2 = -16$

$X^2 + Y^2 = 49$

Solutions: $(6.5, 2.57), (6.5, -2.57),$

$(-6.5, 2.57), (-6.5, -2.57)$



5) $X = 2Y^2 - 5$

$X = -2Y^2 - 1$

Solutions: $(-3, 1), (-3, -1)$

$X = 2Y^2 - 5$

$X = -2Y^2 - 1$

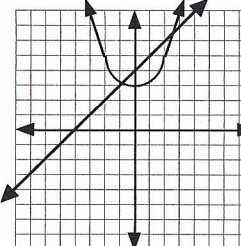
$2X = -6$

$X = -3$

$(-3) = -2Y^2 - 1$

$3 = 2Y^2 + 1$

$Y = \pm 1$



$(X + 4) = 1/2 X^2 + 3$

$1/2 X^2 - X - 1 = 0$

$\frac{(-1) \pm \sqrt{(-1)^2 - 4(1/2)(-1)}}{2(1/2)}$

$X \approx 2.73, -7.3$

$Y = 2.73 + 4 = 6.73$

$Y = -7.3 + 4 = 3.27$

6) $Y = 1/2 X^2 + 3$

$Y = X + 4$

Solutions: $(2.73, 6.73), (-7.3, 3.27)$