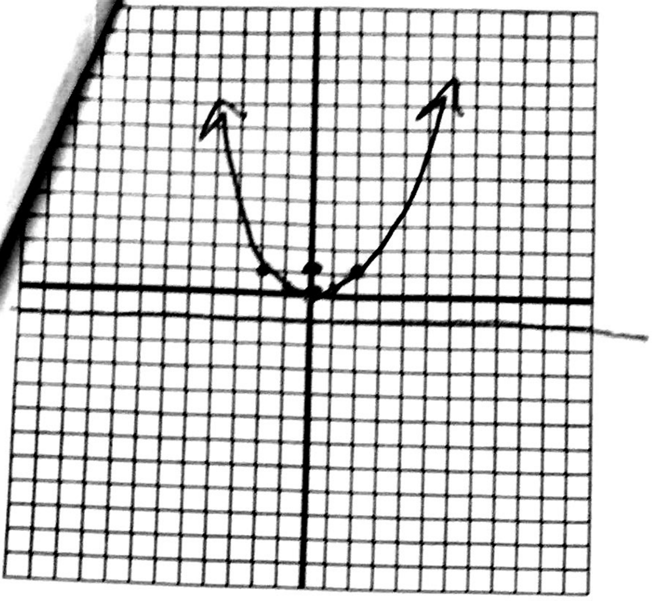


VERTEX $(0,0)$

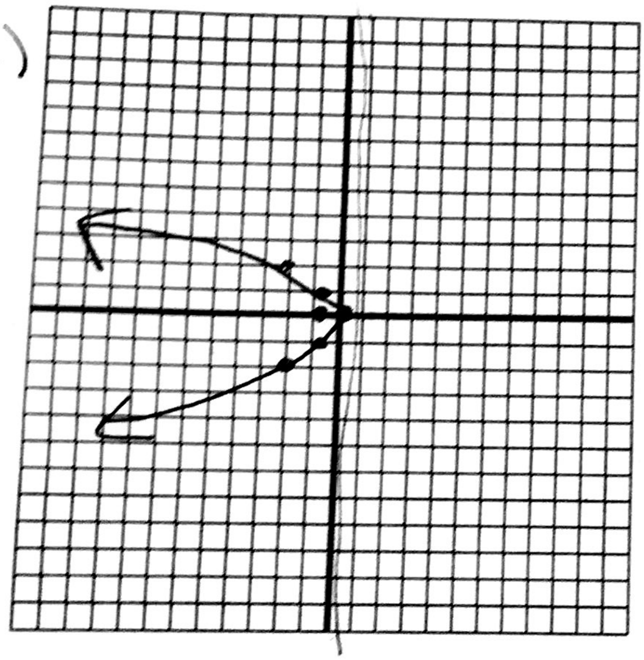
DIR $y = -1$

$p = 1$

$x^2 = 4y$

| x | y |
|---|---|
| 1 | $\frac{1}{4}$ |
| 2 | 1 |

2)



VERTEX $(0,0)$

DIR $x = \frac{1}{2}$

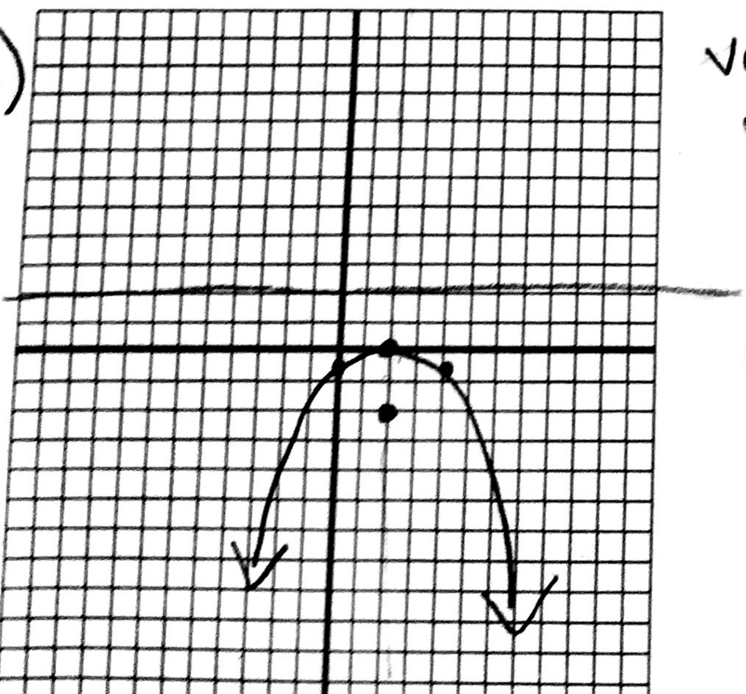
$p = -\frac{1}{2}$

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

$y^2 = -2x$

| x | y |
|---|---|
| $-\frac{1}{2}$ | 1 |
| -2 | 2 |

)



VERTEX $(2,0)$

DIR $y = 2$

$p = -2$

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

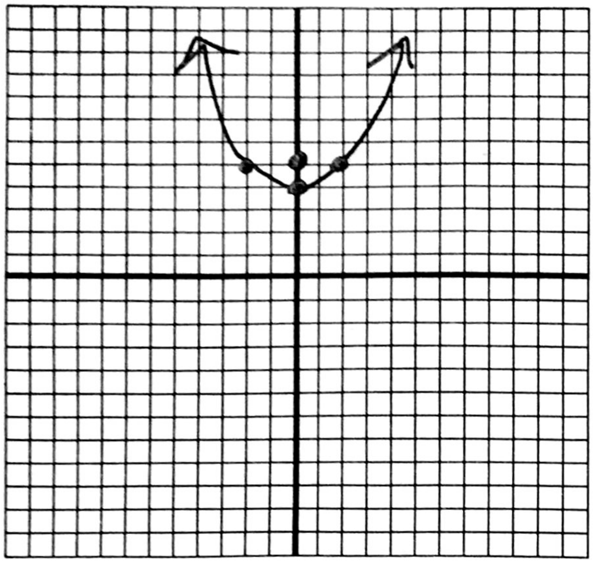
$(x-2)^2 = -8y$

| x | y |
|---|---|
| 0 | $-\frac{1}{2}$ |

$\frac{4}{-8} = \frac{-8}{-8}$

18

4)



VERTEX $(0,4)$

FOCUS $(0,5)$

$p = 1$

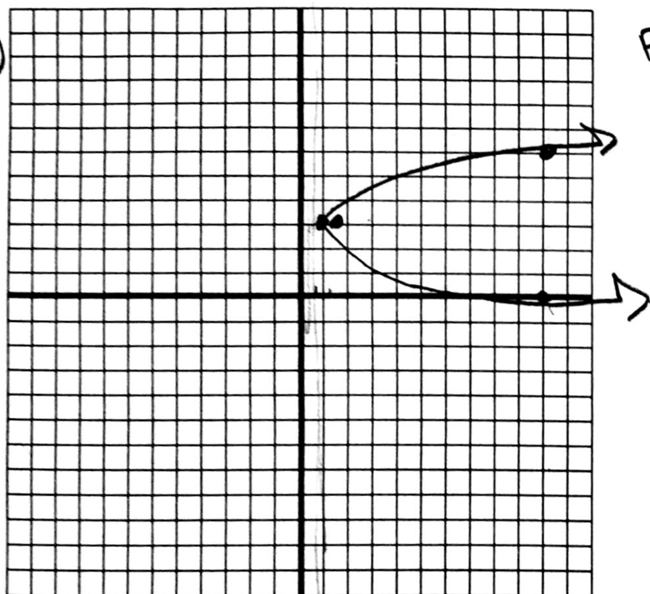
$x^2 = 4(y-4)$

| x | y |
|---|---|
| 2 | 5 |

$4 = 4y - 16$

$20 = 4y$

5)



FOCUS $\left(\frac{5}{4}, 3\right)$

DIR $x = \frac{3}{4}$

VERTEX $(1,3)$ $p = \frac{1}{4}$

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

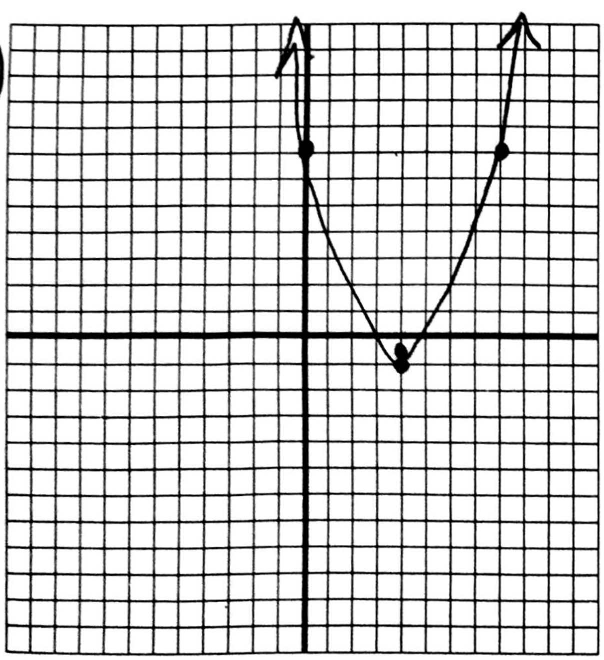
$(y-3)^2 = (x-1)$

| x | y |
|---|---|
| 10 | 0 |

$9 = x - 1$

$10 = x$

6)



FOCUS $(4, -\frac{1}{2})$

VERTEX $(4,-1)$

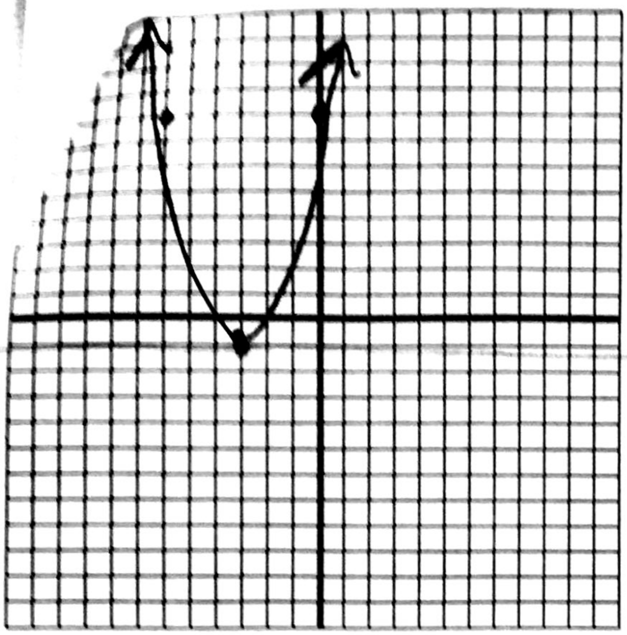
$p = \frac{1}{2}$

$(x-4)^2 = 4\left(\frac{1}{2}\right)(y+1)$

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

| x | y |
|---|---|
| 0 | 7 |

$16 = 2y + 2$



Focus $(-3, -7/8)$

Dir $y = -9/8$

Vertex $(-3, -1)$  $p = \frac{1}{8}$

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

$(x+3)^2 = \frac{1}{2}(y+1)$

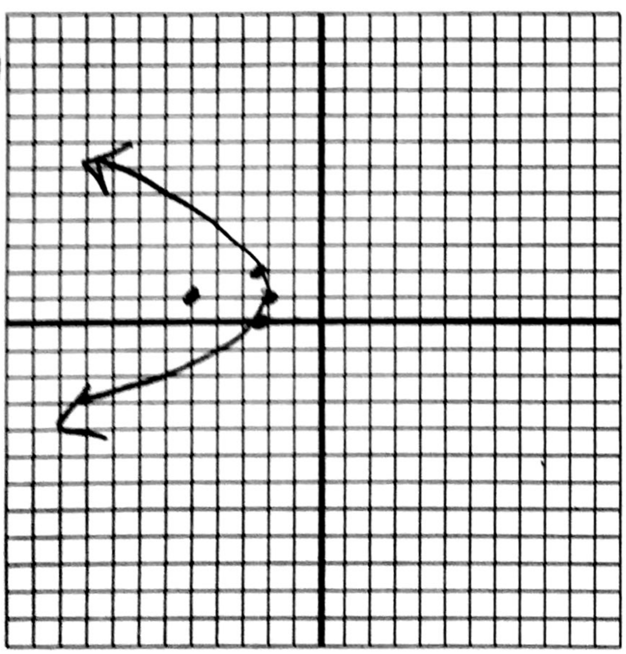
| x | y |
|---|---|
| 0 | 8 |

$9 = \frac{1}{2}y + \frac{1}{2}$

$\frac{8}{2} = \frac{1}{2}y$

$8 = y$

5)



Focus $(-5, 1)$

Vertex $(-2, 1)$  $p = -3$

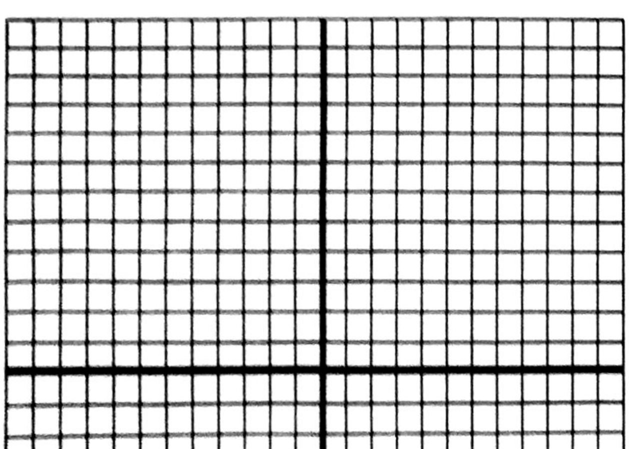
$(y-1)^2 = 4(-3)(x+2)$

$(y-1)^2 = -12(x+2)$

| x | y |
|---|---|
| $-2\frac{1}{12}$ | 0 |

$1 = -12x - 24$

$\frac{25}{-12} = \frac{-12x}{-12}$



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

$x^2 = 4y$

VERTEX: $(0,0)$

FOCUS $4p = 4$

$p = 1$

$(0,1)$

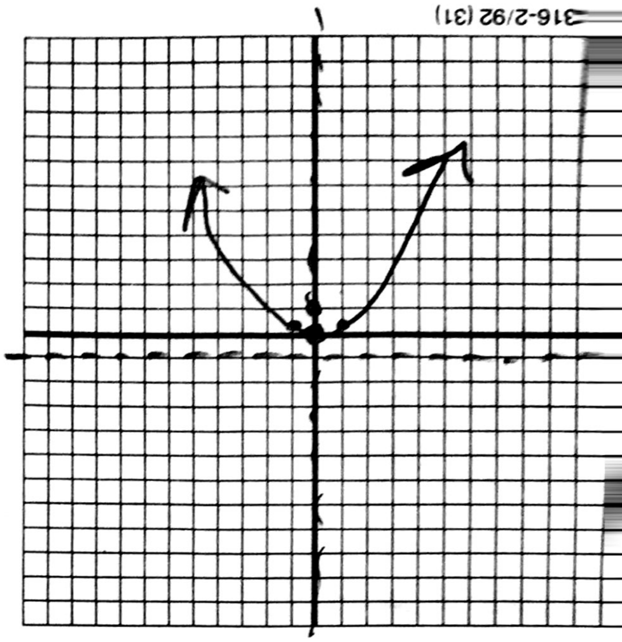
DIR: $y = -1$

AXIS OF SYM

$x = 0$

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

$(1, \frac{1}{4})$



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10) $x = -2y^2 + 1$

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

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

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

VERTEX $(1,0)$

FOCUS $4p = -\frac{1}{2}$

$p = -\frac{1}{8}$

$(\frac{7}{8}, 0)$

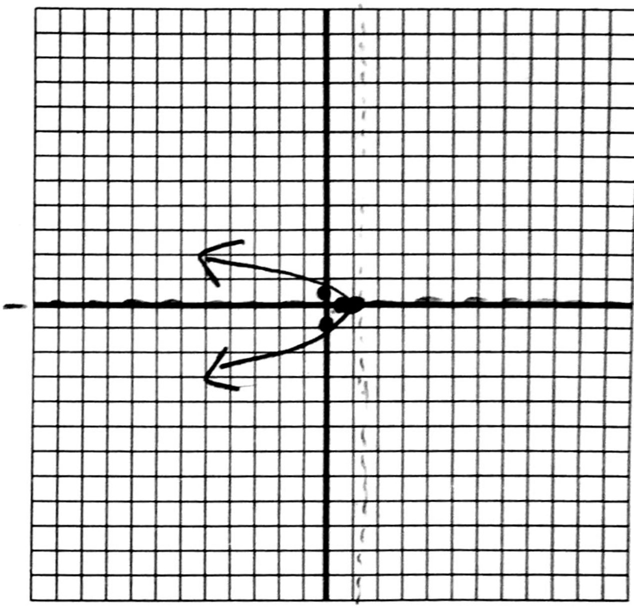
DIR $x = 1\frac{1}{8}$

AXIS OF SYM

$y = 0$

| $x$ | $y^2$ | $y$ |
|---|---|---|
| 0 | $-\frac{1}{2}(-1) = \frac{1}{2}$ | .71 |

$(0, .71)$



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

$-8y = (x-4)^2$

$(x-4)^2 = -8(y+0)$

VERTEX $(4,0)$

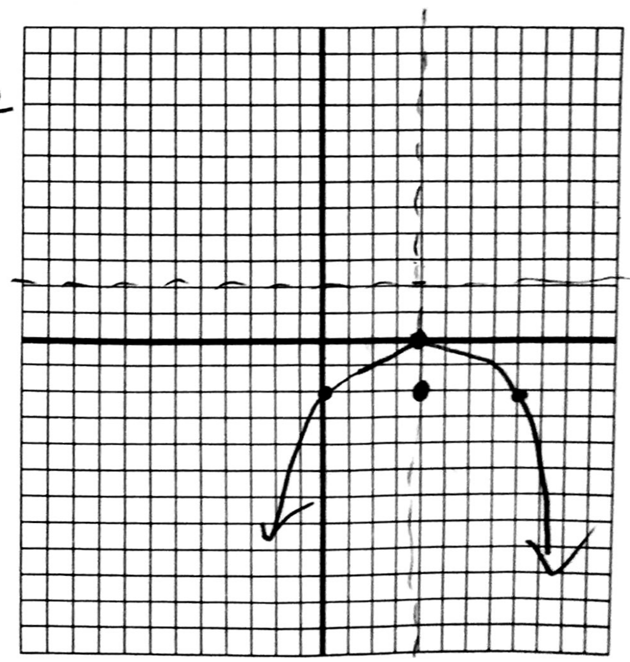
FOCUS $4p = -8$

$p = -2$ $(4,-2)$

DIR $y = 2$

AXIS OF SYM $x=4$

| $x$ | $y$ |
|---|---|
| 0 | $16(-\frac{1}{8}) = -2$ |



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

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

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

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

VERTEX $(3, 1)$

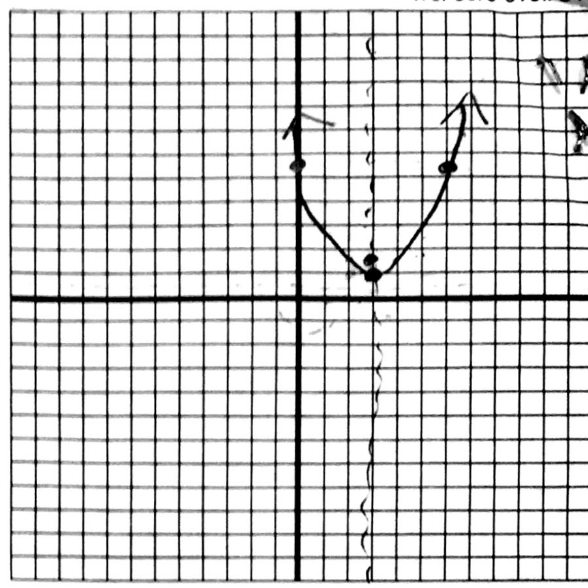
FOCUS $4p = 2$

$p = \frac{2}{4} = \frac{1}{2}$ $(3, 1\frac{1}{2})$

• DIR $y = \frac{1}{2}$

AXIS OF SYM $x = 3$

| x | y |
|---|---|
| 0 | $\frac{1}{2}(9)+1 = 5\frac{1}{2}$ |



13) $y^2 = 3 - x$

$y^2 = -x + 3$

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

VERTEX $(3, 0)$

FOCUS $4p = -1$

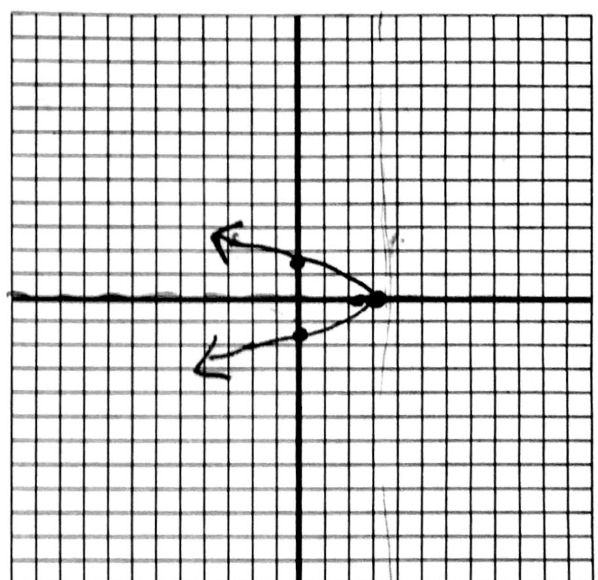
$p = -\frac{1}{4}$

$(2\frac{3}{4}, 0)$

DIR $x = 3\frac{1}{4}$

AXIS $y = 0$

| x | $y^2$ | y |
|---|---|---|
| 0 | 3 | $\sqrt{3} \approx 1.7$ |
| | | $(0, 1.7)$ |



14) $x = 2(y+1)^2 - 4$

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

$\frac{1}{2}(x+4) = (y+1)^2$

$(y+1)^2 = \frac{1}{2}(x+4)$

VERTEX $(-4, -1)$

FOCUS $4p = \frac{1}{2}$

$p = \frac{1}{8}$

$(-3\frac{7}{8}, -1)$

DIR $x = -4\frac{1}{8}$

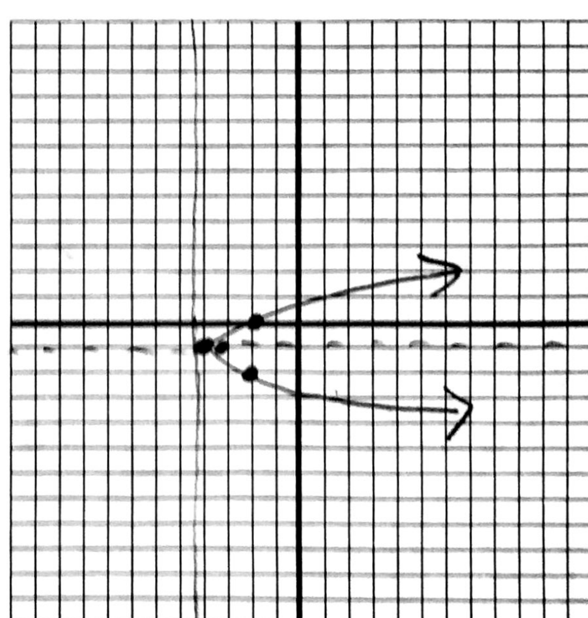
AXIS $y = -1$

| x | y |
|---|---|
| -2 | 0 |

$1 = \frac{1}{2}x + 2$

$-1 = \frac{1}{2}x$

$-2 = x$



15) $y = -x^2 + 5$

$y - 5 = -x^2$

$-1(y-5) = x^2$

$x^2 = -1(y-5)$

VERTEX $(0, 5)$

FOCUS $4p = -1$

$p = -\frac{1}{4}$

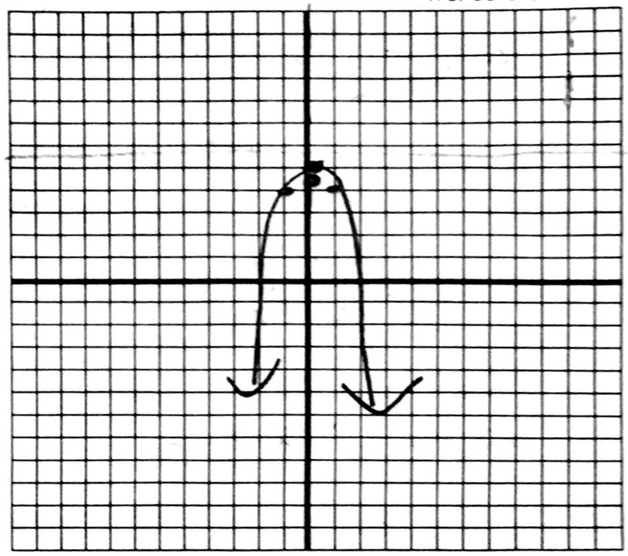
$(0, 4\,3/4)$

DIR $y = 5\frac{1}{4}$

AXIS $x = 0$

| x | y |
|---|---|
| 1 | $-1+5 = 4$ |

$(1, 4)$



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

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

$12(x+4) = (y-1)^2$

$(y-1)^2 = 12(x+4)$

VERTEX $(-4, 1)$

FOCUS $4p = 12$

$p = 3$

$(-1, 1)$

DIR $x = -7$

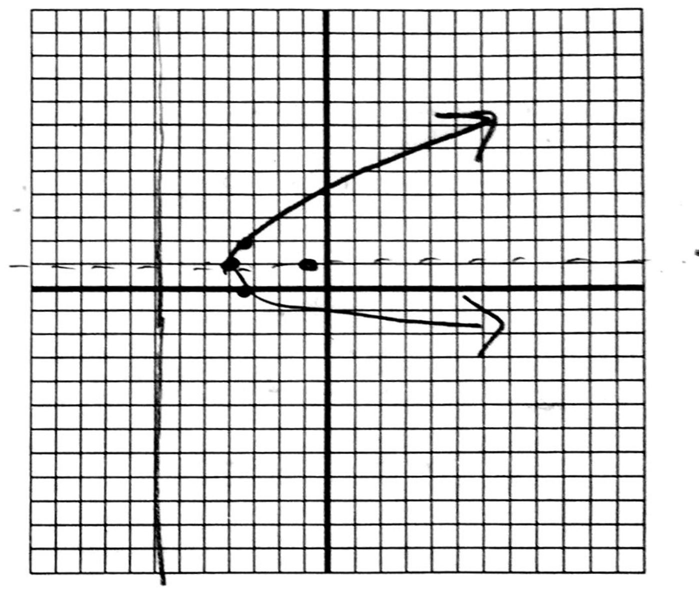
AXIS $y = 1$

| x | y |
|---|---|
| $\approx -3.9$ | 0 |

$1 = 12x + 48$

$-47 = 12x$

$-\frac{47}{12} = x$



17) $y = -4(x+2)^2 + 3$

$(y-3) = -4(x+2)^2$

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

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

VERTEX $(-2, 3)$

FOCUS $4p = -\frac{1}{4}$

$p = -\frac{1}{16}$

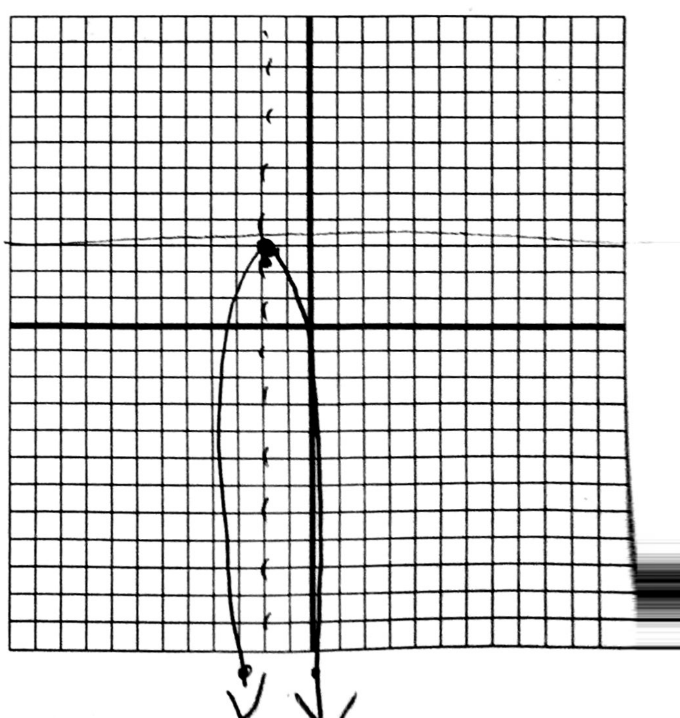
$(-2, 2\frac{15}{16})$

DIR $y = 3\frac{1}{16}$

AXIS $x = 2$

| x | y |
|---|---|
| 0 | $-4(4)+3$ |
| | $= -13$ |

$(0, -13)$



18)

a) $D = 4.8$, DEPTH $2.4$

$\downarrow$

$r = 2.4$

$(2.4, 2.4)$

$x^2 = 4py$

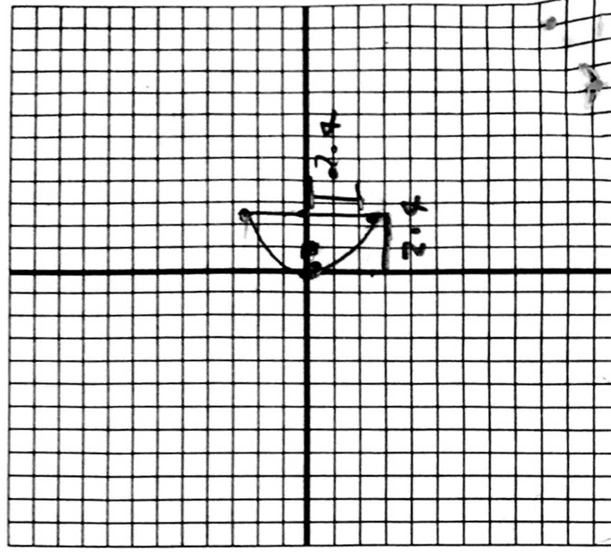
$(2.4)^2 = 4p(2.4)$

$5.76 = 9.6p$

$.6 = p \rightarrow$ FOCUS $(0, .6)$

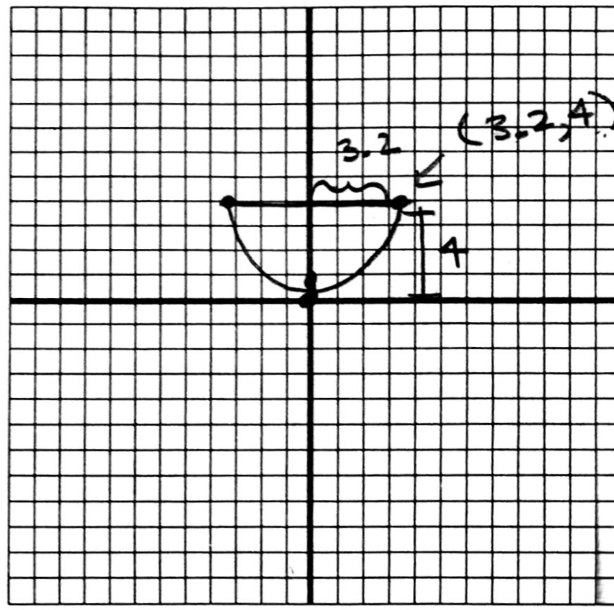
$\boxed{.6 \text{ INCHES}}$






b) DIAM $= 6.4$, DEPTH $= 4$

$r = 3.2$ $(3.2, 4)$




$x^2 = 4py$

$(3.2)^2 = 4p(4)$

$10.24 = 16p$

$.64 = p$ FOCUS $(0, .64)$

$\boxed{.64 \text{ INCHES}}$