Quadratics and completed square form p.10

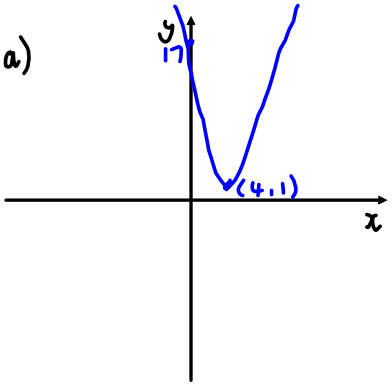
3a) $y = (x-2)^2 + 1$ b) $y = (x-1)^2 + 6$ c) $y = (x-4)^2$ d) $y = (x-3)^2 - 4$

e) $y = x^2 - 5$ f) $y = (x+1)^2 + 3$ g) $y = (x+2)^2 - 4$ h) $y = (x+6)^2$

i) $y = (x-4)^2 + 20$ j) $y = (x-10)^2 - 2$ k) $y = (x-25)^2 + 10$ l) $y = (x+30)^2 + 5$

m) $y = (x-1)^2 - 1$ n) $y = x^2 + 6$

1a)



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

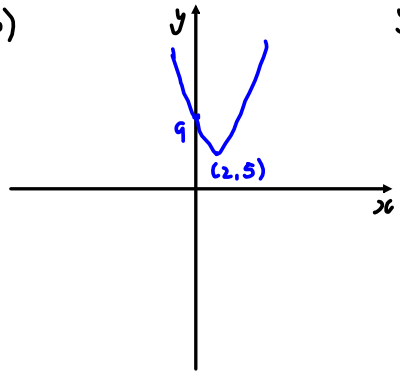
T.P. = (4,1)

y-intercept:

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

$= 16 + 1 = 17$

b)



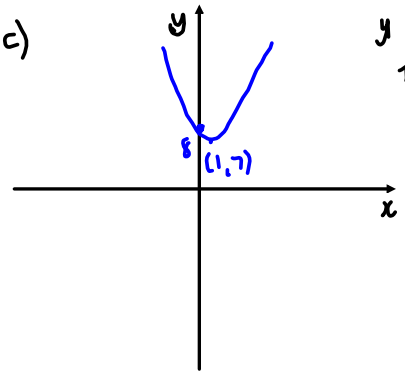
$y = (x-2)^2 + 5$

T.P. = (2,5)

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

$= 9$

c)



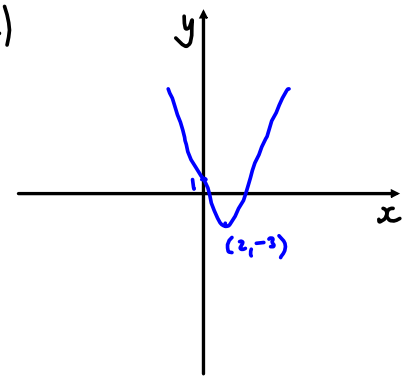
$y = (x-1)^2 + 7$

T.P. (1,7)

$y = (-1)^2 + 7$

$= 8$

d)



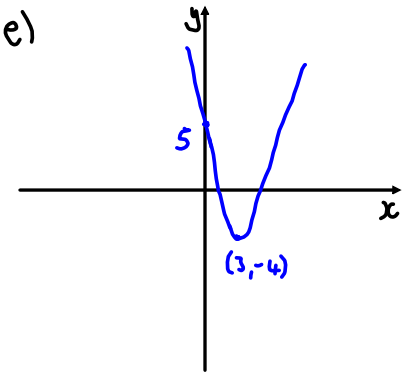
$y = (x-2)^2 - 3$

T.P. (2,-3)

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

$= 1$

e)



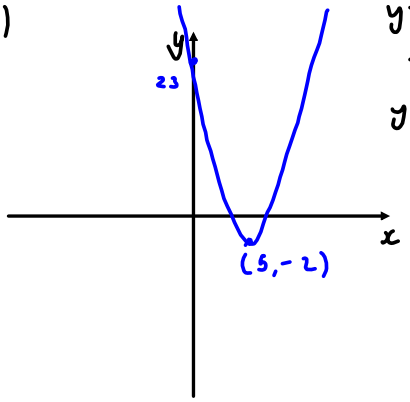
$y = (x-3)^2 - 4$

T.P. (3,-4)

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

$= 5$

f)



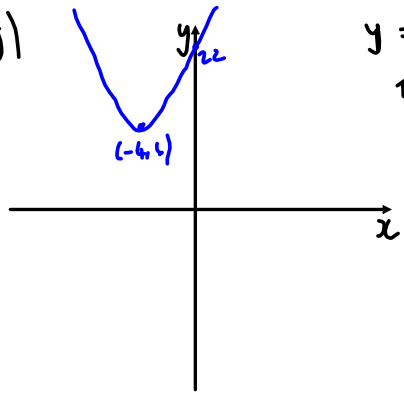
$y = (x-5)^2 - 2$

T.P. (5,-2)

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

$= 23$

g)



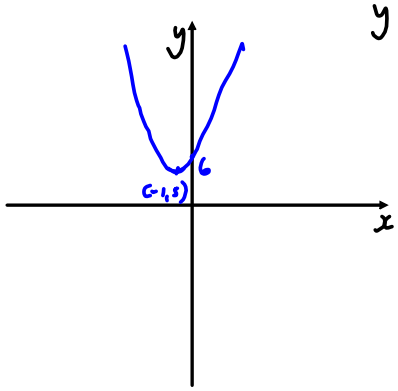
$y = (x+4)^2 + 6$

T.P. $(-4, 6)$

$y = 4^2 + 6$

$= 22$

h)



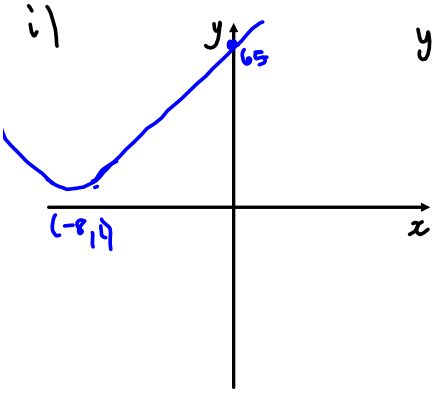
$y = (x+1)^2 + 5$

T.P. $(-1, 5)$

$y = 1^2 + 5$

$= 6$

i)



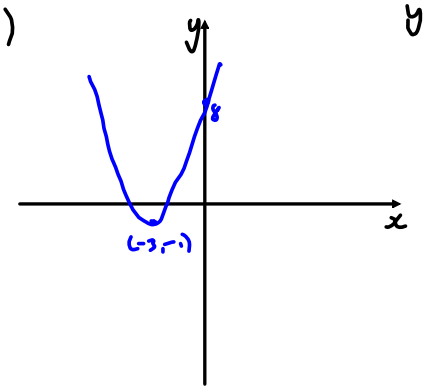
$y = (x+8)^2 + 1$

T.P. $(-8, 1)$

$y = 8^2 + 1$

$= 65$

j)



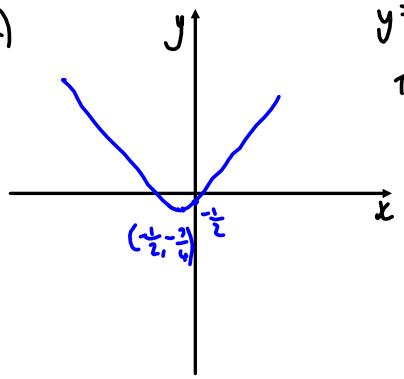
$y = (x+3)^2 - 1$

T.P. $(-3, -1)$

$y = 3^2 - 1$

$= 8$

k)

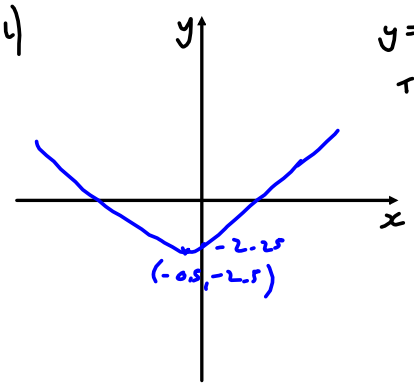


$y = (x + \frac{1}{2})^2 - \frac{3}{4}$

T.P. $(-\frac{1}{2}, -\frac{3}{4})$

$y = \frac{1}{4} - \frac{3}{4} = -\frac{1}{2}$

l)



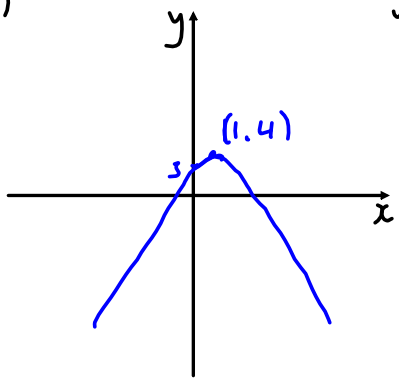
$y = (x+0.5)^2 - 2.5$

T.P. $(-0.5, -2.5)$

$y = 0.25 - 2.5$

$= -2.25$

m)



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

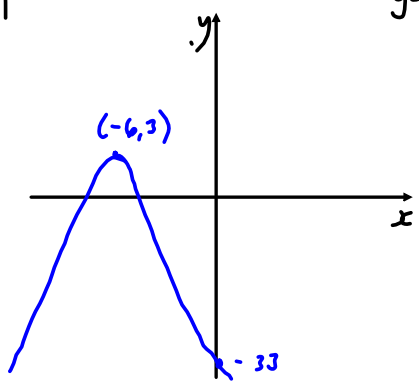
T.P. $(1, 4)$

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

$= -1 + 4$

$= 3$

n)



$y = -(x+6)^2 + 3$

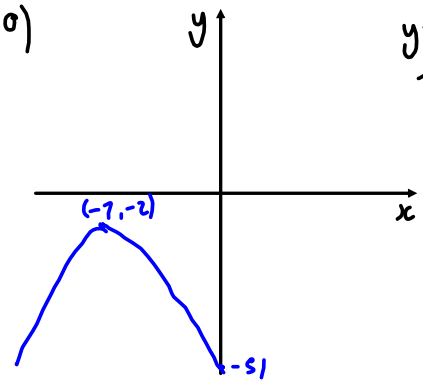
T.P. $(-6, 3)$

$y = -(6)^2 + 3$

$= -36 + 3$

$= -33$

o)



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

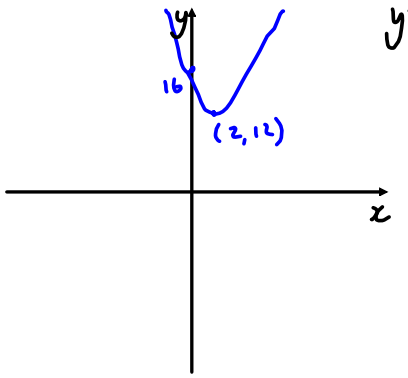
T.P. $(-7, -2)$

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

$= -49 - 2$

$= -51$

p)



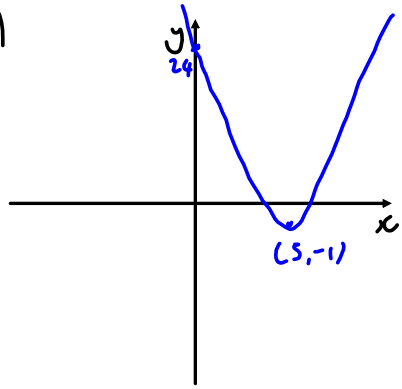
$y = (2-x)^2 + 12$

TP: $(2, 12)$

$y = 2^2 + 12$

$= 16$

q)



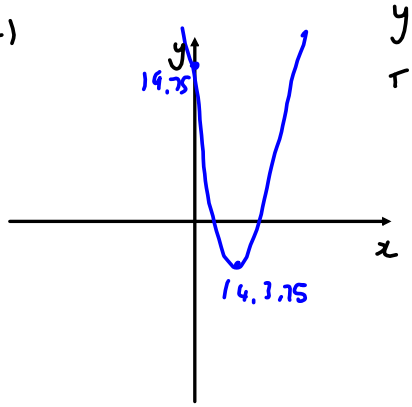
$y = (5-x)^2 - 1$

T.P. $(5, -1)$

$y = 5^2 - 1$

$= 24$

r)



$y = (4-x)^2 + 3.75$

TP: $(4, 3.75)$

$y = 4^2 + 3.75$

$= 19.75$.