Name:
Period:
Date:

Practice Test: Graphing Parabolas

complete the square only! **Box your answers**

① $y = x^2 - 2x + 3$

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

② $y = x^2 - 14x + 30$

$y = (x-7)^2 - 19$

③ $y = x^2 + 22x + 1$

$y = (x+11)^2 - 120$

simplify

④ $3(2-5)^2 + 17$

$3(-3)^2 + 17$

$3(9) + 17$

$27 + 17$

44

⑤ $(3 - 2 \cdot 5) + (2 + 8^2)$

$(3 - 10) + (2 + 64)$

$-7 + 66$

59

⑥ $(3 + 4 \cdot 3 - 2^2) + 7$

$(3 + 12 - 4) + 7$

$(15 - 4) + 7$

$11 + 7$

18

⑦ $(3+1) + 2(5-7)^2$

$4 + 2(-2)^2$

$4 + 2(4)$

$4 + 8$

12

⑧ $-5(1-8) + 4(2-7)$

$-5(-7) + 4(-5)$

$35 + -20$

$35 - 20$

15

⑨ $2(2+5)^2 - (5-8)$

$2(7)^2 - (-3)$

$2(49) + 3$

$98 + 3$

101

Graph each

⑩ $y = (x-3)^2 + 6$

$V: (3, 6)$

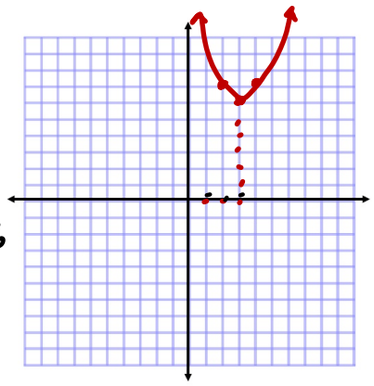
x	y
2	7
4	7

$(2-3)^2 + 6$

$(-1)^2 + 6$

$1 + 6$

7



⑪ $y = -2(x+3)^2 + 3$

$V: (-3, 3)$

x	y
-2	1
-4	1

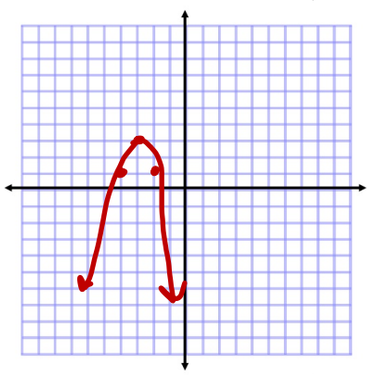
$-2(-2+3)^2 + 3$

$-2(1)^2 + 3$

$-2(1) + 3$

$-2 + 3$

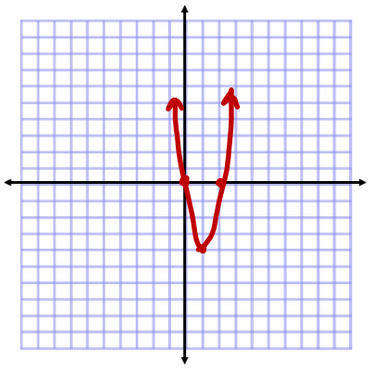
1



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

V: $(1, -4)$

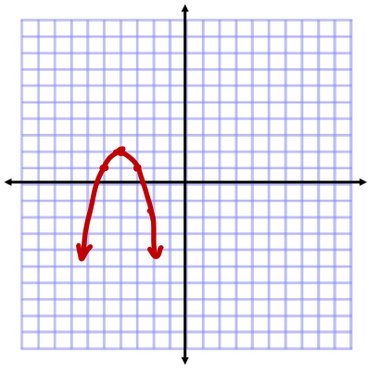
x	y
0	0
2	0



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

V: $(-4, 2)$

x	y
-5	1
-3	1



$-1(-5+4)^2 + 2$

$-1(-1)^2 + 2$

$-1(1) + 2$

$-1 + 2$

1

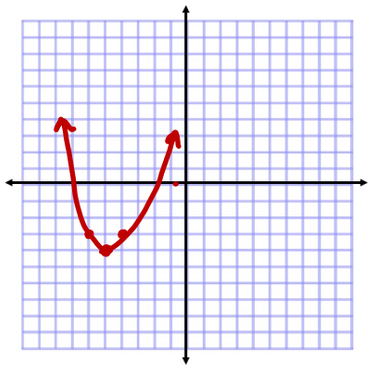
Complete the square, then graph

(14) $y = x^2 + 10x + 21$

$y = (x+5)^2 - 4$

V: $(-5, -4)$

x	y
-6	-3
-4	-3

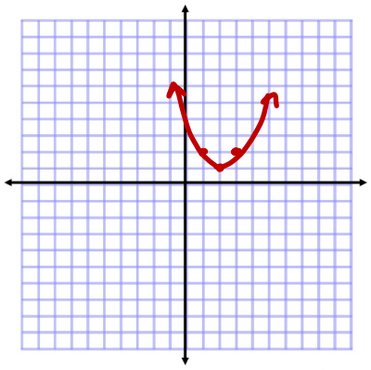


(15) $y = x^2 - 4x + 5$

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

V: $(2, 1)$

x	y
1	2
3	2

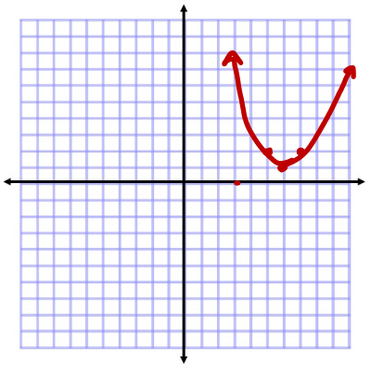


(16) $y = x^2 - 12x + 37$

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

V: $(6, 1)$

x	y
5	2
7	2



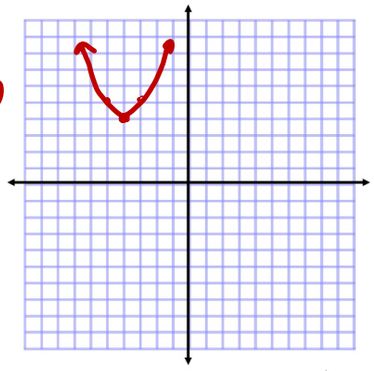
(17) $y = x^2 + 8x + 20$

$y = (x+4)^2 - 16 + 20$

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

V: $(-4, 4)$

x	y
-3	5
-5	5



$(-3+4)^2 + 4$

$(1)^2 + 4$

$1 + 4$

5