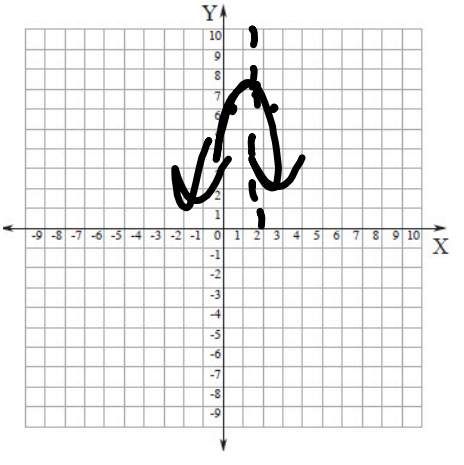
Warm Up

Identify the vertex

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

Graph and Identify the vertex and axis of sym

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



Problem 1

$n^2 - 3n - 18$

$(n-6)(n+3)$

$n^2 - 18$

n	-6
n	3

$-6n$

$3n$

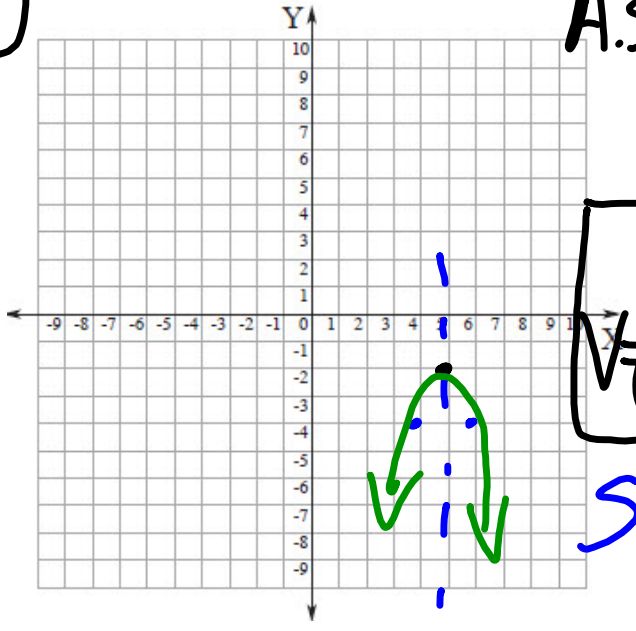
$=3n$

Problem 2

$y = -2x^2 + 20x - 52$

$-50 + 100 - 52$

$50 - 52$



A.S $= \frac{-b}{2a}$

$= \frac{-20}{2(-2)}$

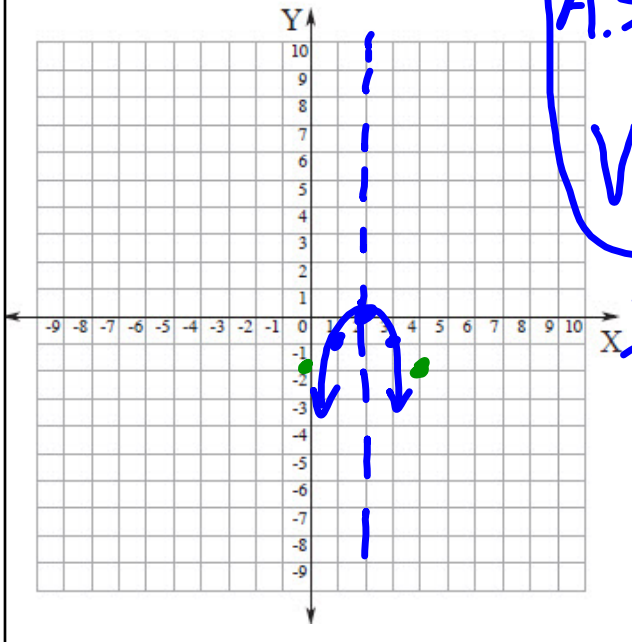
$= 5$

V $(5, -2)$

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

Problem 3

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



A.S = 2

V (2, 0)

Slope = $\frac{-1}{1}$

Problem 4

$2p^2 + 13p - 24 = 0$

$(2p - 3)(p + 8) = 0$

$2p = 3$

$p = \frac{3}{2}$

$p + 8 = 0$

$-8 \quad -8$

$p = -8$

$2 \cdot -24$

2	-3
1	8

16

-3

13

Problem 5

$y = 2(x - 5)^2 - 7$

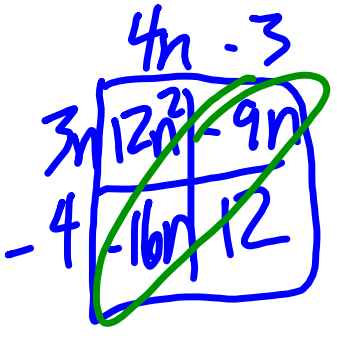
$V = (5, -7)$

Problem 6

$(4n - 3)(3n - 4)$

$12n^2 - 16n - 9n + 12$

$12n^2 - 25n + 12$



Problem 7

A B C

$4k^2 + 10k - 12 = 0$

$$k = \frac{-(10) \pm \sqrt{(10)^2 - 4(4)(-12)}}{2(4)}$$

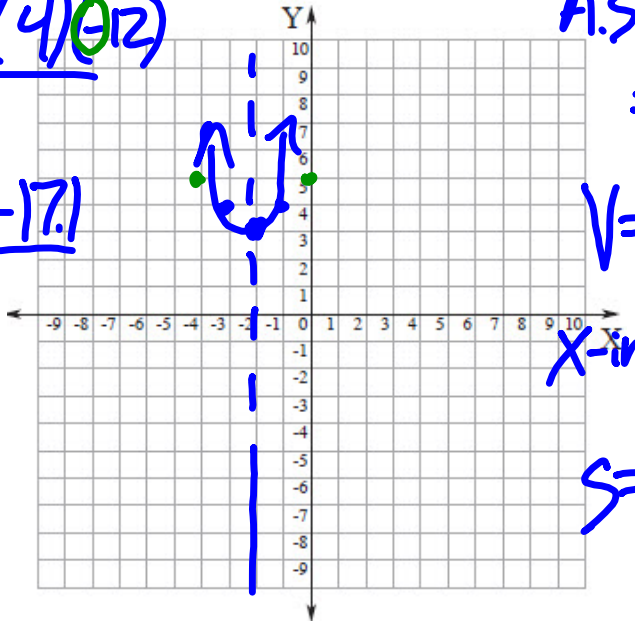
$$k = \frac{-10 + 17.1}{8} \quad \frac{-10 - 17.1}{8}$$

$$\frac{7.1}{8} \quad \frac{-27.1}{8}$$

$0.9 \quad -3.4$

Problem 8

$y = x^2 + 4x + 7$



A.S $= \frac{-4}{2(1)} = -2$

V $= (-2, 3)$

X-int: None

S $= \frac{1}{1}$

Problem 9

$y = x^2 - 9x + 18$

-6 -3

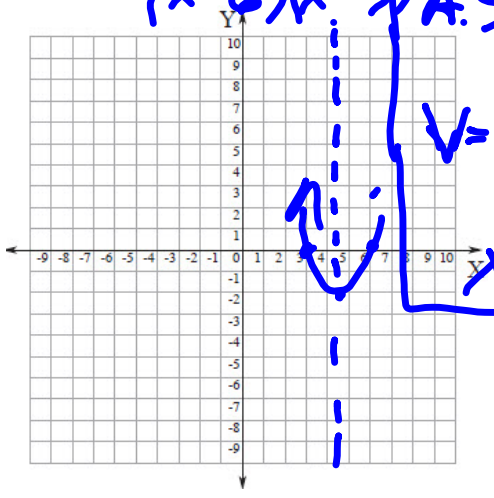
V

(x-6)(x-3)

A.S = $\frac{-(-9)}{2(1)} = 4.5$

V = (4.5, -2.25)

x-int: 3, 6



Problem 10

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

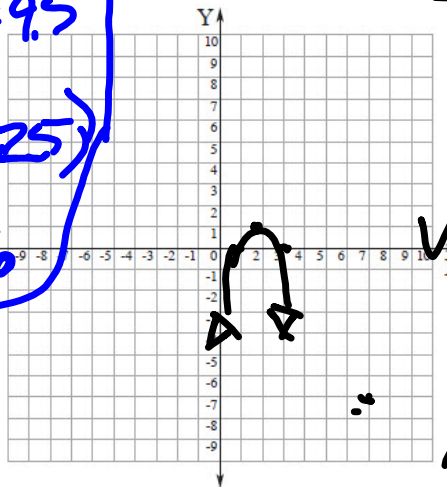
$\frac{-4}{2(-1)}$

A.S = 2

V = (2, 1)

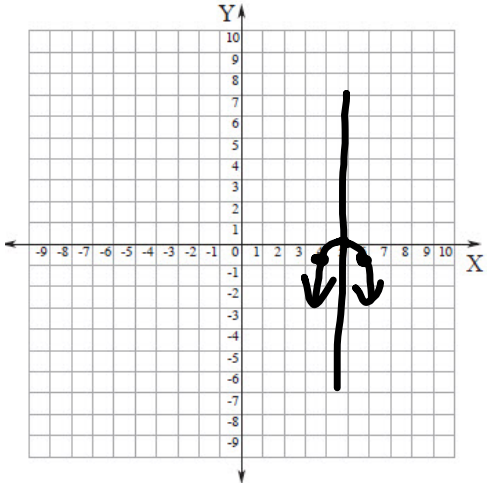
S = -1

X-int: 1, 3



Problem 11

$y = -x^2 + 10x - 25$



Problem 12

$y = -x^2 + 10x - 17$

$\frac{-(10)}{2(-1)} = 5$ (5) A.S = 5 (5)

V = (5, 10)

S = -1

x int = 5

12 $\frac{-10}{-2} = 5$ A.S = 5

V = (5, 8)

Problem 13

$n^2 = 5n + 14$

$n^2 - 5n - 14 = 0$

$(n-7)(n+2) = 0$

$-n^2 + 5n + 14 = 0$

$-n + 7 = 0$

$-7 \quad -7$

$-n = -7$

$n = 7$

$-n^2$	14
$-n$	7
n	2

$(-n+7)(n+2) = 0$

$n + 2 = 0$

$-2 \quad -2$

$n = -2$

$n = 7$

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