$V(-4,-1)$

$y\text{ int} = -5$ $\quad pt.(0,-5)$

$y = a(x-p)^2 + q$

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

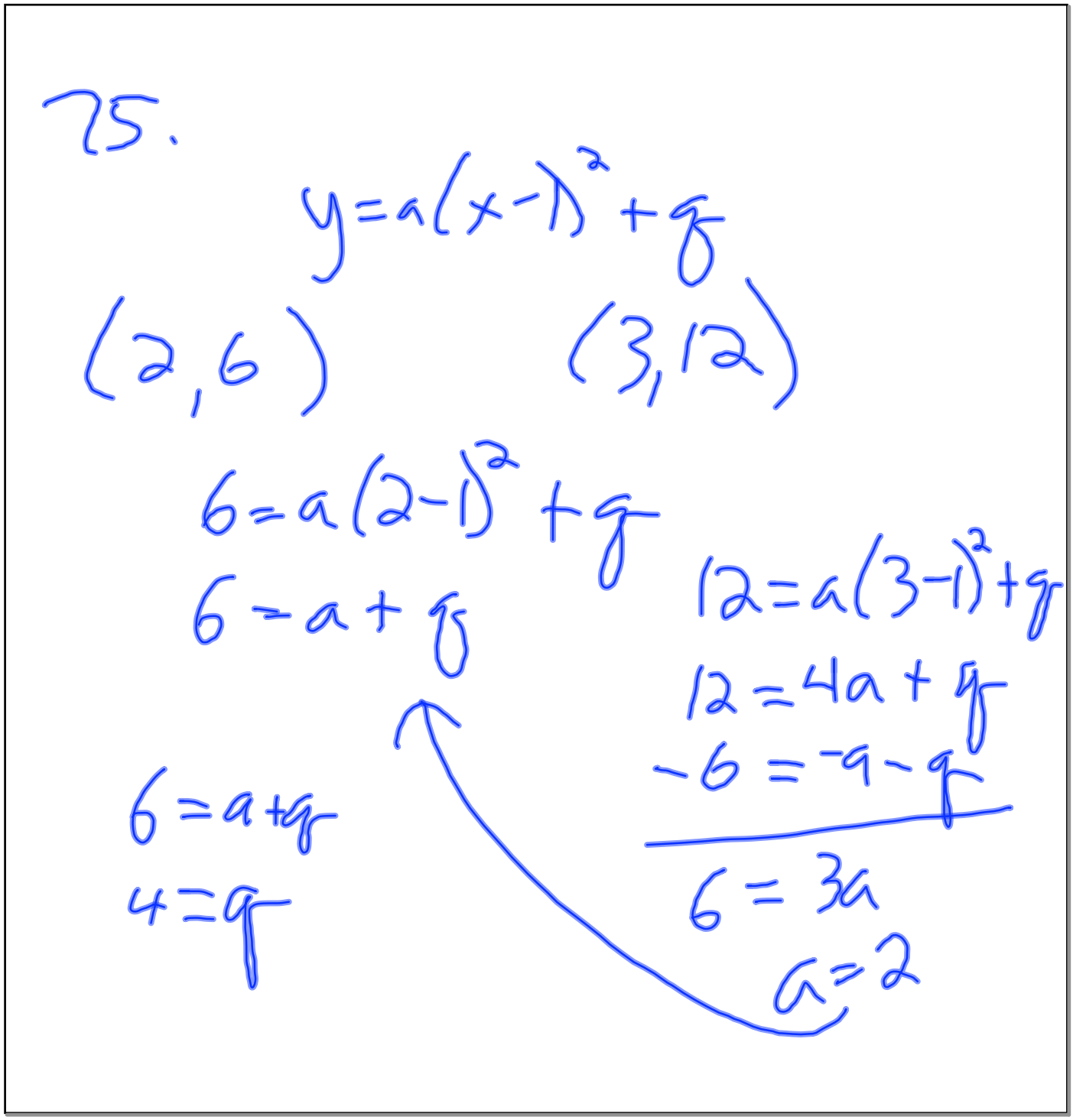
$-5 = a(0+4)^2 - 1$

$\therefore$

$\frac{-4}{16} = \frac{16a}{16}$

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

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


75.
$y = a(x-1)^2 + q$
(2, 6)
(3, 12)
$6 = a(2-1)^2 + q$
$6 = a + q$
$12 = a(3-1)^2 + q$
$12 = 4a + q$
$-6 = -q - q$
$6 = 3a$
$a = 2$
$6 = a + q$
$4 = q$

General form

$y = 2x^2 + 8x - 4$

y_{int} $x = 0$

$y = -4$

Standard form

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

perfect square

$(x+3)^2 = (x+3)(x+3) = x^2 + 6x + 9$

$(x+7)^2 = x^2 + 14x + 49$

$(x-11)^2 = x^2 - 22x + 121$

What should the value of m be so that the following are perfect squares:

a) x^2+8x+m $m=16$

$(x+4)^2$

b) x^2-6x+m $m=9$

$(x-3)^2$

c) x^2-Bx+m $m=42.25$

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2-12 evens

Using Perfect Squares to put in standard form

Rewrite in standard form

a) $y = x^2 + 6x + 7$ ✓

$y = (x^2 + 6x) + 7$

9 + $y = (x^2 + 6x + 9) + 7$

$y = (x+3)^2 + 7 - 9$

$y = (x+3)^2 - 2$ ✓

V $(-3, -2)$

b) $y = x^2 - 10x - 32$

$25 + y = (x^2 - 10x + 25) - 32$

$y = (x-5)^2 - 57$

$V(5, -57)$

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