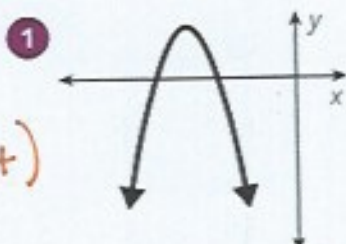


Check Your Understanding - Analyze each graph. Then, circle the function(s) which could model the graph. Describe the reasoning you used to either eliminate or choose each function.

A value Neg  
x-ints both neg  
Vertex in 2nd Quad  $(-, +)$   
y-int  $\rightarrow$  Neg



$f_1(x) = -2(x+1)(x+4)$  ✓

$f_2(x) = -\frac{1}{3}x^2 - 3x - 6$  ✓

~~$f_3(x) = 2(x+1)(x+4)$~~  <sup>pos</sup>

~~$f_4(x) = 2x^2 - 8.9$~~  <sup>pos</sup>

~~$f_5(x) = 2(x-1)(x-4)$~~  <sup>pos</sup>

~~$f_6(x) = -(x-6)^2 + 3$~~

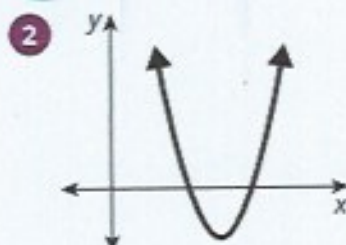
~~$f_7(x) = -3(x+2)(x-3)$~~

x-ints wrong sign

✓  $f_8(x) = -(x+6)^2 + 3$

Vertex  $(+, +)$

A value positive  
Both x-ints pos  
Vertex in 4th Quadrant  $(+, -)$   
y-int  $\rightarrow$  Pos



$f_1(x) = 2(x-75)^2 - 92$  ✓

~~$f_2(x) = (x-8)(x+2)$~~  <sup>x-int wrong sign</sup>

$f_3(x) = 8x^2 - 88x + 240$  ✓

~~$f_4(x) = -3(x-1)(x-5)$~~

~~$f_5(x) = -2(x-75)^2 - 92$~~

~~$f_6(x) = x^2 + 6x - 2$~~

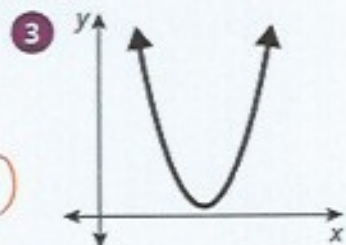
~~$f_7(x) = 2(x+4)^2 - 2$~~

Vertex wrong sign

~~$f_8(x) = (x+1)(x+3)$~~

Vertex wrong sign

A value pos  
No x-intercepts  
y-int pos  
Vertex (1st quadrant)  $(+, +)$



~~$f_1(x) = 3(x+1)(x-5)$~~

No x-int

~~$f_2(x) = 2(x+6)^2 - 5$~~

Vertex wrong sign

$f_3(x) = 4x^2 - 400x + 10,010$  ✓

~~$f_4(x) = 3(x+1)(x+5)$~~

No x-int

$f_5(x) = 2(x-6)^2 + 5$  ✓

~~$f_6(x) = x^2 + 2x - 5$~~

y-int wrong sign