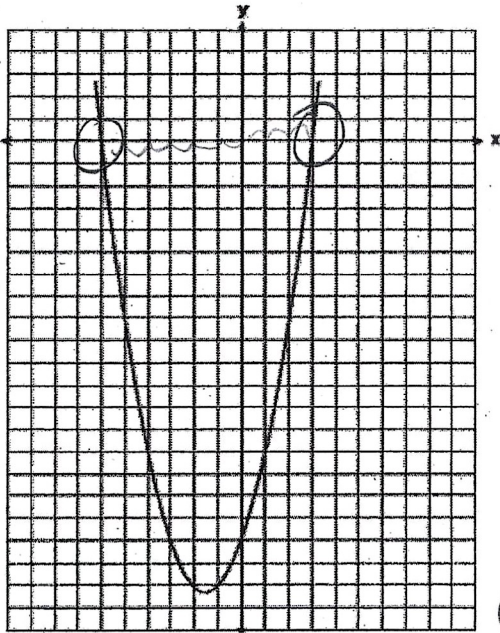


DO NOW

Directions: Answer each question. Show all work where necessary.

1. The graph of a quadratic equation is shown in the accompanying diagram. The scale on the axes is a unit scale. Write an equation of this graph in standard form.



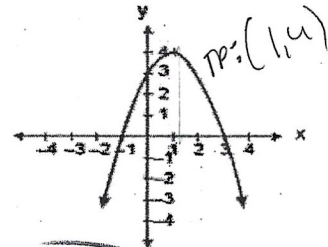
Roots
 $x = -6$
 $x = -3$

- 1) $y = (x-6)(x+3)$
- 2) $y = (x+6)(x+3)$
- 3) $y = (x-6)(x-3)$
- 4) $y = (x+6)(x-3)$

$(x+6)(x-3) = y$
 $(x+6)(x-3) = 0$
 $x = -6 \quad x = 3 \leftarrow \text{Roots}$

Work Backwards

2. Which is an equation of the parabola shown in the accompanying diagram?



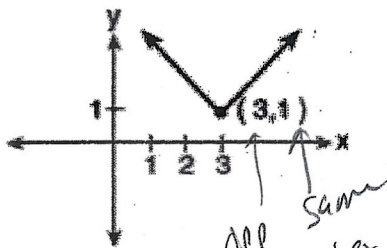
- 1) $y = -x^2 + 2x + 3$
- 2) $y = -x^2 - 2x + 3$
- 3) $y = x^2 + 2x + 3$
- 4) $y = x^2 - 2x + 3$

Work Backwards

$-y^2 + 2x + 3 = 0$
 $-x^2 + 2x + 3 = 0$
 $-(x^2 - 2x - 3) = 0$
 $x^2 - 3x + 1x - 3 = 0$
 $(x+1)(x-3) = 0$
 $x = -1 \quad x = 3 \leftarrow \text{Roots}$

3. Which equation is represented by the accompanying graph?

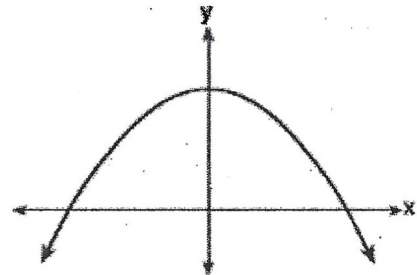
Absolute value graph



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

Opp same in vertex form

4. Which equation is best represented by the accompanying graph?



- 1) $y = 6^x$
- 2) $y = 6x^2$
- 3) $y = 6x + 1$
- 4) $y = -x^2 + 1$

Parabola opens down must be $-x^2$