

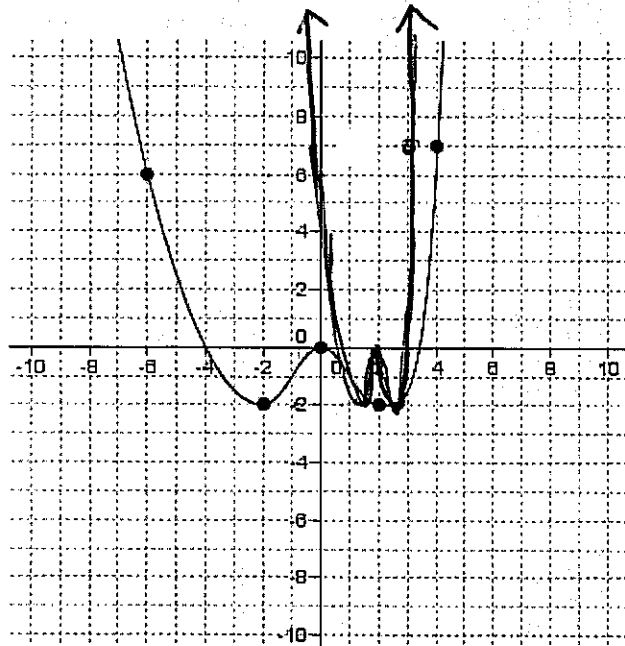
$$y = f(3(x-2)) \quad a=1$$

$$k=3$$

$$d=2$$

$$5) y = f(3x-6)$$

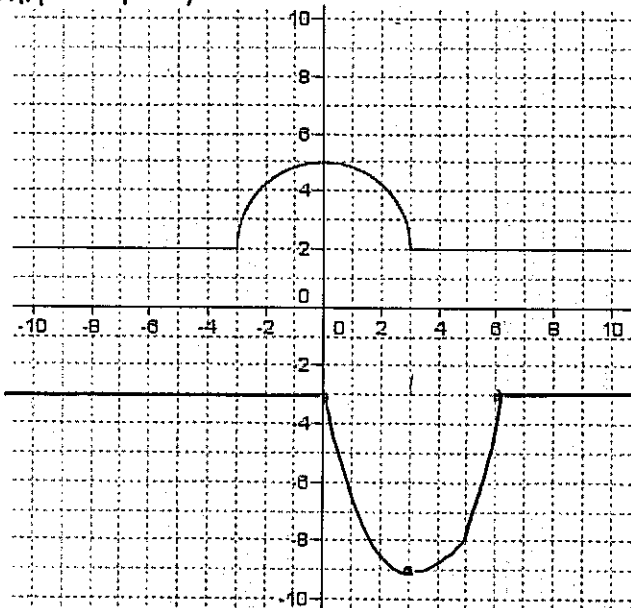
- ① Horizontal compression by $\frac{1}{3}$
- ② Shift right 2 units.



$$7) y = -2f(x-3)+1 \quad a=-2, k=1$$

$$d=3 \quad c=1$$

- ① Reflection in x axis
- ② Vertical stretch by a factor of 2
- ③ Shift right 3 units
- ④ Shift up by 1 unit



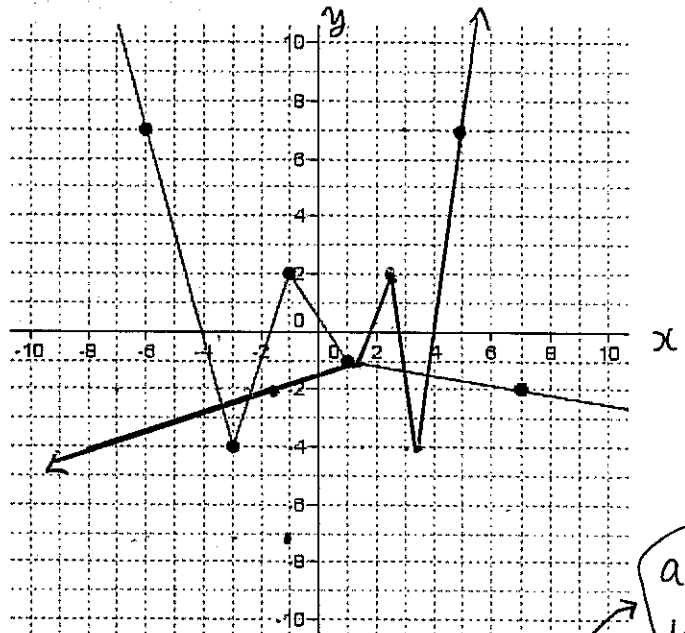
$$y = f(-2(x-2)) \quad a=1$$

$$k=-2$$

$$d=2$$

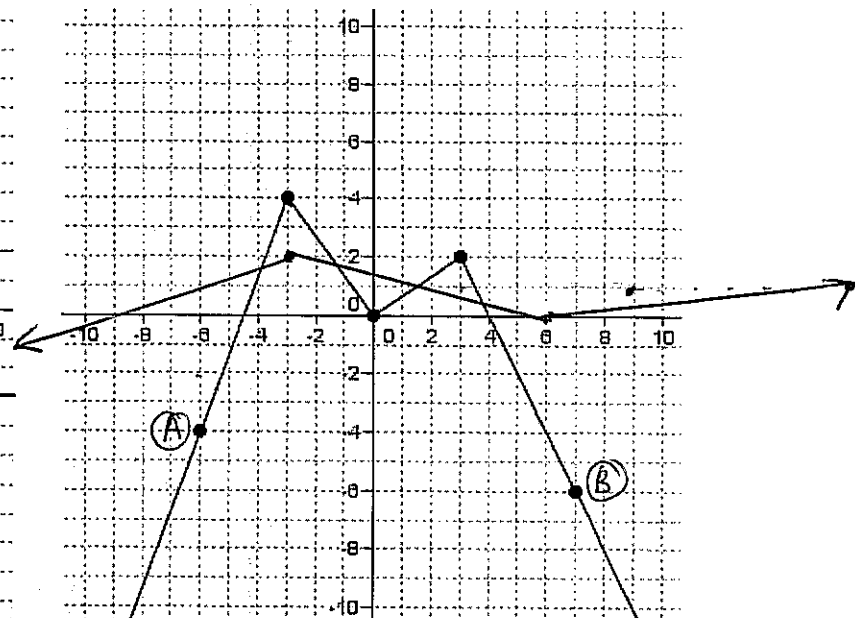
$$6) y = f(-2x+4)$$

- ① reflection on y axis
- ② horizontal compression by $\frac{1}{2}$
- ③ shift right 2 units.



$$8) y = \frac{1}{2}f\left(\frac{1}{3}x-2\right) \quad y = \frac{1}{2}f\left(\frac{1}{3}(x-6)\right)$$

- ① Vertical compression by $\frac{1}{2}$
- ② Horizontal stretch by 3
- ③ Shift right 6 units



* point A and B are too far off from this grid.

$$a = \frac{1}{2}$$

$$k = \frac{1}{3}$$

$$d = 6$$