

A $(1, -2)$ 1. reflection on x-axis
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2. shift 3 unit up

1: $(1, 2)$ 3. shift 4 unit right

2: $(1, 5)$ 4. rotation 90°

3: $(5, 5)$

4: $(-5, 5)$

distance : 85

Midpoint : $(-2, 1.5)$

b. $(-5, 3)$

Shift 4 unit left $\rightarrow (-9, 3)$

Shift 5 unit down $(-9, -2)$

Rotate $27^\circ \rightarrow (-2, 9)$

Reflect in y-axis $\rightarrow (2, 9)$

distance from 85

Midpoint $(-1.5, 6)$

c. Point $(2, -2)$

Reflect on x-axis $\rightarrow (2, 2)$

Reflect on y-axis $\rightarrow (-2, 2)$

Shift 4 unit down $(-2, -2)$

Rotate $180^\circ \rightarrow (2, 2)$

distance = 4

midpoint = $(2, 0)$

Q2)

$$f(x) = \frac{1}{2}x + 3$$

$f(x)$	0	2
$f(x)$	3	4

$$\frac{1}{2}(0) + 3$$

$$\frac{1}{2}(2) + 3$$

$(0, 3), (2, 4)$

Shift 3 right

Shift 3 down

$(0, 3) \rightarrow (0, 6)$

reflect x-axis

$(0, 6) \rightarrow (0, -6)$

rotate 180°

$(0, -6) \rightarrow (3, 6)$

$(3, 6) \rightarrow (3, -6)$

$(2, 4) \rightarrow (2, 7)$

$(2, 7) \rightarrow (-1, 7)$

$(-1, 7) \rightarrow (-1, -7)$

$(-1, -7) \rightarrow (-1, 7)$

the slope = $\frac{1}{2}$

equation = $y = \frac{1}{2}x + 1.5$