10-12-18 5th Geo

Slope in Real Life

1. mountains
2. escalator
3. wheel chair ramp
4. drain in bath tub
5. Roads - water runoff
6. Desk top
7. Roller coaster
8. Football field (water runoff)
9. Stairs

1. Give eq. in SIF that has a slope of 2 and goes through $(-3, 7)$.

$$y - y_1 = m(x - x_1)$$

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

$$y - 7 = 2x + 6$$

$$+7 \qquad +7$$

$$y = 2x + 13$$

FIRE

Rise with the wise (y)

AND

Run to the exit (x)

② Give the slope between (2, 7) and (4, 17).

$$\text{Slope} = \frac{\Delta y}{\Delta x} = \frac{17-7}{4-2} = \frac{10}{2} = 5$$

③ Give the equation in SIF that goes through (1, 3) and (2, 9).

$$\text{Slope} = \frac{\Delta y}{\Delta x} = \frac{9-3}{2-1} = \frac{6}{1} = 6$$

$y - y_1 = m(x - x_1)$

$y - 3 = 6(x - 1)$

$y - 3 = 6x - 6$

$+3 \quad +3$

$y = 6x - 3$

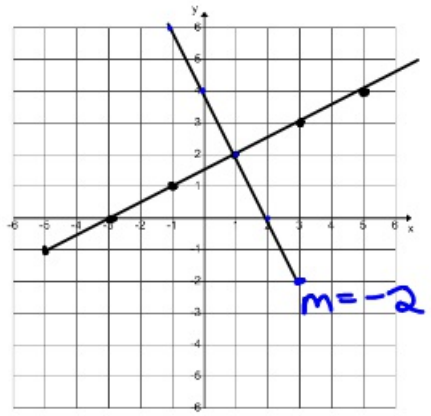
$y - y_1 = m(x - x_1)$

$y - 9 = 6(x - 2)$

$y - 9 = 6x - 12$

$+9 \quad +9$

$y = 6x - 3$



④ Give eq. in SIf that is perpendicular to $y = 2x - 7$ and goes through the point $(-4, 6)$.

$y = 2x - 7$ has a slope of 2

$\therefore \perp\ m = -\frac{1}{2}$

$y - y_1 = m(x - x_1)$

$y - 6 = -\frac{1}{2}(x + 4)$

$y - 6 = -\frac{1}{2}x - 2$

$+6 \qquad +6$

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

⑤ Line 1 has points $(2, 5)$ and $(3, 9)$.

Line 2 has points $(7, 5)(11, 6)$.

Are these lines $\perp$?

Line 1 $m = \frac{\Delta y}{\Delta x} = \frac{9-5}{3-2} = \frac{4}{1} = 4$

Line 2 $m = \frac{\Delta y}{\Delta x} = \frac{6-5}{11-7} = \frac{1}{4}$

No.

⑥ Give eq. in SIF that goes through (3,4) and is parallel to $y = 5x - 1$.

$m = 5$

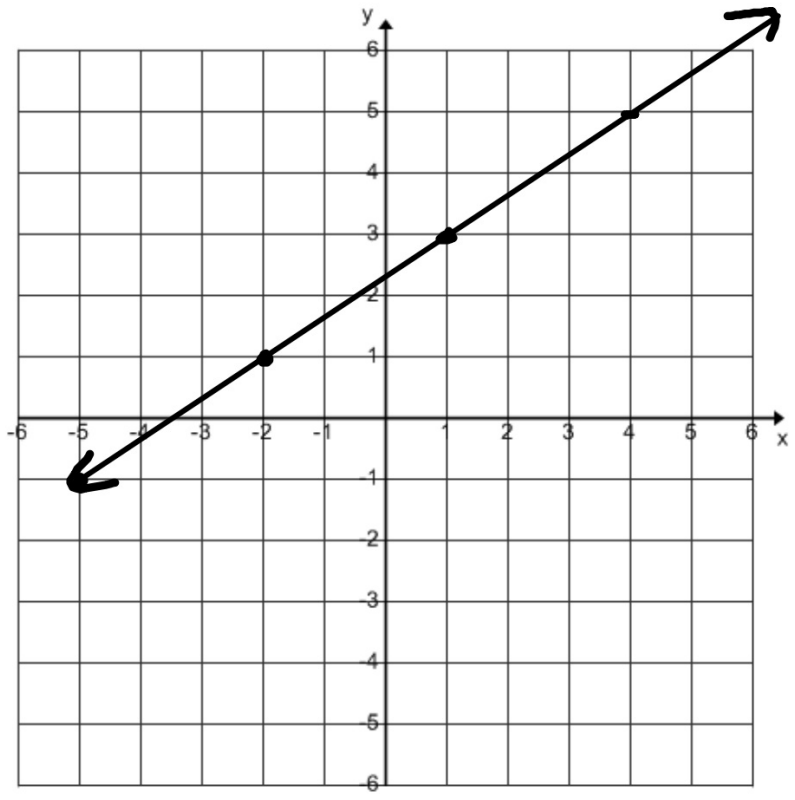
$y - y_1 = m(x - x_1)$

$y - 4 = 5(x - 3)$

$y - 4 = 5x - 15$

$+4 \qquad +4$

$y = 5x - 11$



$m = \frac{2}{3}$

$\therefore \perp m = -\frac{3}{2}$

10-12-18 6th Geo

Slope in real life

1. door stop
2. football field
3. roof of house (piteh)
4. roller coaster
5. gutters
6. airplane (landing) wings
7. drain in tub
8. pipes
9. roads (middle of road) drainage

$$y - y_1 = m(x - x_1)$$

1. Give the equation in SIf that goes through (2, 8) and has a slope of -3.

$$y - 8 = -3(x - 2)$$

$$y - 8 = -3x + 6$$

$$+8 \qquad +8$$

$$y = -3x + 14$$

FIRE

Rise with the wise(y)

____ AND ____

Run to the exit(x)

② Find slope between (1, 3) and (4, 12).

$$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{12-3}{4-1} = \frac{9}{3} = 3$$

③ Give the eq. in SIF that goes through (2, 7) and (4, 17).

$$m = \frac{\Delta y}{\Delta x} = \frac{17-7}{4-2} = \frac{10}{2} = 5$$

$y - y_1 = m(x - x_1)$

$y - 7 = 5(x - 2)$

$y - 7 = 5x - 10$

$+7 \quad +7$

$y = 5x - 3$

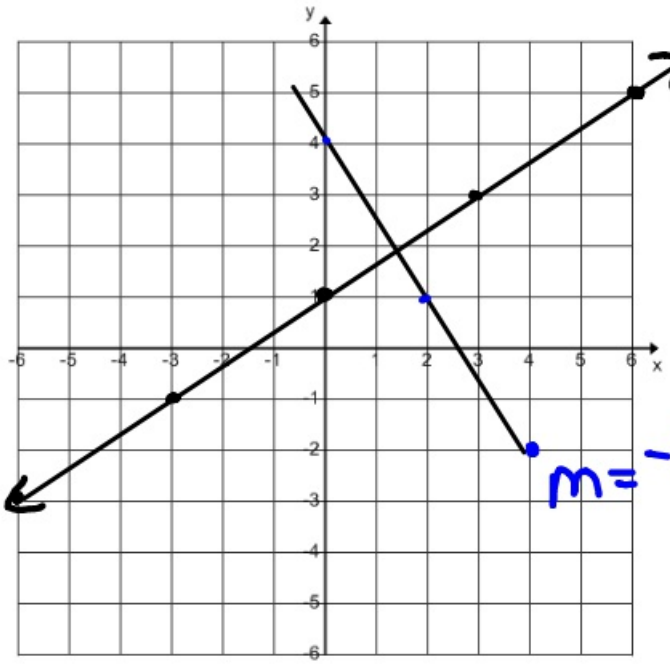
$y - y_1 = m(x - x_1)$

$y - 17 = 5(x - 4)$

$y - 17 = 5x - 20$

$+17 \quad +17$

$y = 5x - 3$



(4) Give eq. of line in SIF that is $\perp$ to $y = \frac{1}{2}x - 7$ and goes through $(-3, 4)$.

$y = \frac{1}{2}x - 7$ has a slope of $\frac{1}{2}$

$\therefore \perp\ m = -2$

$y - y_1 = m(x - x_1)$

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

$y - 4 = -2x - 6$

$+4 \qquad +4$

$y = -2x - 2$

⑤ Give the eq. of the line that is parallel to $y = 4x - 1$ and goes through $(2, 5)$.

$y = 4x - 1$ has a slope of 4

$\therefore$ parallel slope is 4.

$$y - y_1 = m(x - x_1)$$
$$y - 5 = 4(x - 2)$$
$$y - 5 = 4x - 8$$
$$+5 \qquad +5$$
$$y = 4x - 3$$

⑥ Line 1 has $(2,6)$ $(3,10)$

Line 2 has $(7,8)$ $(11,9)$.

Are they $\perp$?

Line 1 $m = \frac{\Delta y}{\Delta x} = \frac{10-6}{3-2} = \frac{4}{1} = 4$

Line 2 $m = \frac{\Delta y}{\Delta x} = \frac{9-8}{11-7} = \frac{1}{4}$

Not $\perp$