Slope of a line $(m) = \dfrac{\text{Rise}}{\text{Run}} = \dfrac{\text{Vertical Change}}{\text{Horizontal Change}} = \dfrac{\Delta y}{\Delta x} = \dfrac{y_2 - y_1}{x_2 - x_1}$

When you calculate slope give the answer as an integer or a fraction in reduced form.

Find the slope of the line that passes through each pair of points.
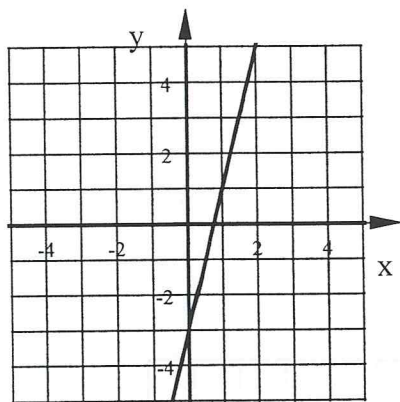
1. $(15, -5) \,\&\, (-10, 10)$

2. $(4, 3) \,\&\, (-6, 3)$

3. $(-9, -14) \,\&\, (21, -4)$
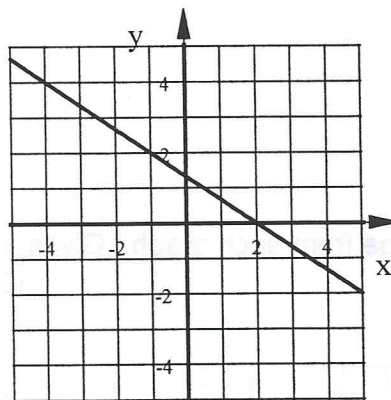
4. $(-7, 8) \,\&\, (-7, -2)$

Find the slope of the line shown in each graph.
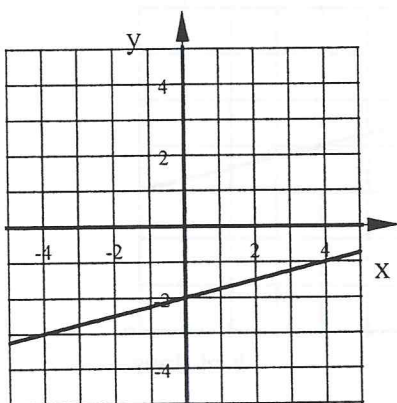
5.
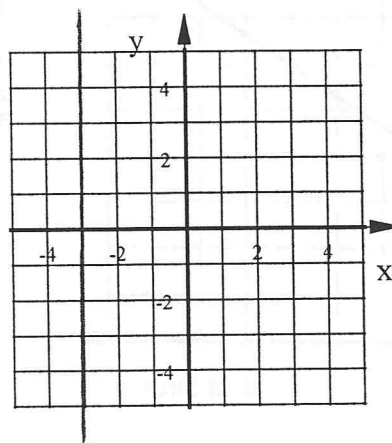
6.

7.

8.

Rate of Change

Rate of Change = $\dfrac{\text{Change in Dependent Variable}}{\text{Change in Independent Variable}} = \dfrac{\Delta y}{\Delta x}$ = Slope but with Units.

Since rate of change deals with real quantities not just x and y coordinates you'll be asked to give your answer as an integer or a decimal (rounded when necessary) but **you must include units**.

Don't confuse Rate of Change with Direct Variation

Rate of Change = $\dfrac{y_2 - y_1}{x_2 - x_1}$ Direct Variation is $\dfrac{y}{x}$

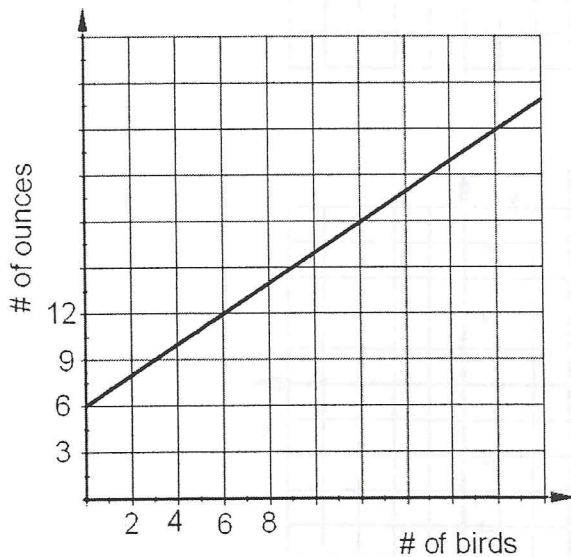Find the rate of change Using each table. Give answers with units.

9.

Number of people	Number of gallons
6	2825
15	6875
20	9125
23	10,475
41	18,575

10.

Number of hours	Amount of food remaining (*lbs*)
11	412
16	372
25	300
34	228
39	188

Find the rate of change from each graph. Given answers with units.

11.

12.

2