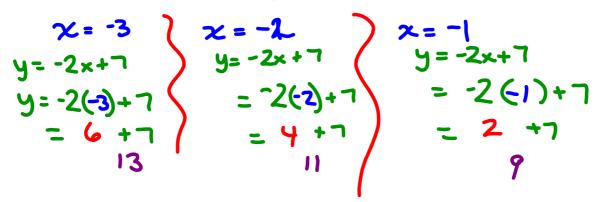Name: _____          **Grade 8 Unit 6 Test Review**

1. Complete this table of values for the relation $y = 3x - 5$ for the following table. Show work

| x | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| y | -2 | 1 | 4 | 7 |

$x = 1$
$$y = 3x - 5$$
$$= 3(1) - 5$$
$$= 3 - 5$$
$$-2$$

$x = 2$
$$y = 3x - 5$$
$$= 3(2) - 5$$
$$= 6 - 5$$
$$1$$

$x = 3$
$$y = 3x - 5$$
$$= 3(3) - 5$$
$$= 9 - 5$$
$$4$$

2) Complete this table of values for the relation $y = -2x + 7$ for $x = -3$ to $+3$. Make a table and show work

| X | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|---|----|----|----|---|---|---|---|
| Y | 13 | 11 | 9 | 7 | 5 | 3 | 1 |

$x = -3$
$y = -2x + 7$
$y = -2(-3) + 7$
$= 6 + 7$
$13$

$x = -2$
$y = -2x + 7$
$= -2(-2) + 7$
$= 4 + 7$
$11$

$x = -1$
$y = -2x + 7$
$= -2(-1) + 7$
$= 2 + 7$
$9$

3) a)The ordered pair (7,  ) is in the linear relation with equation y = - 9x – 2. Find the missing number in the ordered pair. (Show work)

$$y = -9x - 2$$
$$= -9(7) - 2$$
$$= 63 - 2$$
$$y = 61$$
$$(7, 61)$$

b) The ordered pair (-11,__) is in the linear relation with equation $y = -9x - 2$. Find the missing number in the ordered pair. (Show work)

$$y = -9x - 2$$
$$y = -9(-11) - 2$$
$$y = 99 - 2$$
$$y = 97$$

$$(-11, 97)$$

c) The ordered pair (___, -209) is in the linear relation with equation $y = -9x - 2$. Find the missing number in the ordered pair. (Show work)

$$y = -9x - 2$$

$$-209 = -9x - 2$$

$$-209^{+2} = -9x - 2^{+2}$$

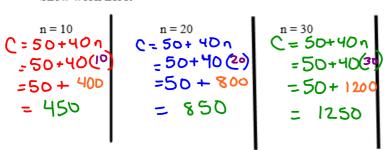$$-207 = -9x$$

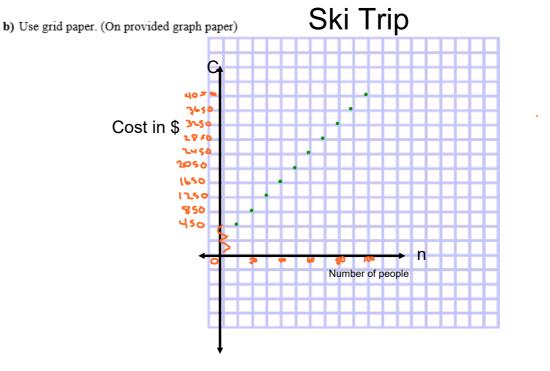$$\frac{-207}{-9} = \frac{-9x}{-9}$$

$$\boxed{23 = x}$$

$$(23, -209)$$

1.The snowboard club is planning a trip to a local hill. A bus company will charge them using the formula C= 50 + 40n, where C is the total cost for n people.

a)　　Create a table of values for the relation.
　　　Use these values of $n$: 10, 20, 30, 40, 50, 60, 70

**Show work here:**

n = 10
$C = 50 + 40n$
$= 50 + 40(10)$
$= 50 + 400$
$= 450$

n = 20
$C = 50 + 40n$
$= 50 + 40(20)$
$= 50 + 800$
$= 850$

n = 30
$C = 50 + 40n$
$= 50 + 40(30)$
$= 50 + 1200$
$= 1250$

| n | C |
|---|---|
| 10 | 450 |
| 20 | 850 |
| 30 | 1250 |
| 40 | 1650 |
| 50 | 2050 |
| 60 | 2450 |
| 70 | 2850 |

up by 400

b) Use grid paper. (On provided graph paper)

## Ski Trip



Cost in $

4050
3650
3250
2850
2450
2050
1650
1250
850
450

Number of people

n

**c)** Describe the relationship between the variables in the graph. (What happens to n and C in the chart?)

As the number of people increase by 10, the cost increases by $400.

**d)** A parent group is willing to give the club $410? How many people could go on the trip (Show work)

$$C = 50 + 40n$$
$$410 = 50 + 40n$$
$$410 \underset{-50}{\phantom{x}} = 50 \underset{-50}{\phantom{x}} + 40n$$
$$360 = 40n$$
$$\frac{360}{40} = \frac{40n}{40}$$
$$\boxed{9 = n}$$

9 people can go on the trip for $410.

e) When drawing the graph can you connect the dots? Why or why not?

No you cannot connect the dots since you cannot have half a person go on the trip.

2) If you have a question dealing with negative values for money, what does that mean for the person? (What does negative money mean?)

→ Negative money means you lose money, in debt or owe money.