Math Worksheet
Creating Equations
Real Life Situations

For each of the following situations please do the following:
  a) State the equation
  b) Draw the graph
  c) Answer the questions

1. A photographer charges a sitting fee of $36 and $4 for every picture ordered.
     a) Calculate the cost of ordering 45 photographs.
     b) How many photographs could you purchase for $135?

2. A taxi company charges a flat rate of $11 and $0.25 for every km driven.
     a) How many km can you go for $47?
     b) How much would it cost to travel 19km?

3. A cable company charges a monthly fee of $36 along with $3.25 for every additional channel.
     a) How may extra channels can you purchase for $100?
     b) How much would it cost for 11 extra channels?

4. A telephone company charges $2.75 for every long distance phone call along with a monthly fee of $27.
     a) How much would it cost to make 5 long distance phone calls lasting 10 minutes each?
     b) Calculate how many phone calls can be bade for $57.

5. A telephone company charges $0.54 a minute for long distance phone calls. Its monthly fee is $48.
     a) How much would it cost to make 5 phone calls lasting 4 minutes each?
     b) How long could you talk to your best friend in NFLD for $87?
     c) How long could you talk to your friend in Nelson?

6. Give an example of a scenario that would use the following equations.
     a) $y = 6x + 56$
     b) $y = 4x + 35$
     c) $y = 2x + 11$

1.

$m = 4$
$b = 36$
$x =$ # of pictures
$y =$ $

$y = 4x + 36$

a) $y = 4(45) + 36$
$y = 180 + 36$
$y = \$216.00$

b) $ -36$
$135 = 4x + 36$
$\dfrac{99}{4} = \dfrac{4x}{4}$
$x = 24.75$
24 pictures

2.

$m = 0.25$
$b = 11$
$x =$ # of km.
$y =$ $

$y = 0.25x + 11$

a) $ -11$
$47 = 0.25x + 11$
$\dfrac{36}{0.25} = \dfrac{0.25x}{0.25}$
$x = 144$ km.

b) $y = 0.25(19) + 11$
$y = 4.75 + 11$
$y = \$15.75$

3.

$m = 3.25$
$b = 36$
$x =$ # of channels.
$y =$ $

$y = 3.25x + 36$

a) $ -36$
$100 = 3.25x + 36$
$\dfrac{64}{3.25} = \dfrac{3.25x}{3.25}$
$19.69 = x$
$x = 19$ channels.

$$y = 0.25x + 11 \qquad\qquad x = 144 \; km$$

b) $y = 0.25(19) + 11$
$y = 4.75 + 11$
$y = \$15.75$

3. $m = 3.25$
$b = 36$
$x = $ # of channels.
$y = \$$

$y = 3.25x + 36$

a) -36
$100 = 3.25x + 36$
$\dfrac{64}{3.25} = \dfrac{3.25x}{3.25}$

$19.69 = x$

$x = 19 \; channels.$

b) $y = 3.25(11) + 36$
$y = 35.75 + 36$
$y = \$71.75$

4. $m = 27$ a) $y = 2.75(5) + 27$
         $b = 2.75$ $y = 13.75 + 27$
         $x = $ # of calls $y = \$40.75$
         $y = \$$

                                              -27
         $y = 2.75x + 27$ b) $57 = 2.75x + 27$
                                     $\underline{30} = \underline{2.75x}$
                                      $2.75 \quad 2.75$

                                     $10.9 = x$
                                   * 10 phone calls

5. $m = 0.54$ a) $y = 0.54(20) + 48$
         $b = 48$ $y = 10.80 + 48$
         $x = $ #of minutes $y = \$58.80$
         $y = \$$

                                          -48
         $y = 0.54x + 48$ b) $87 = 0.54x + 48$
                                    $\underline{39} = \underline{0.54x}$
                                     $0.54 \quad 0.54$

                                  $x = 72.2$ minutes

5.

$m = 0.54$
$b = 48$
$x = $ #of minutes
$y = $ \$

$y = 0.54x + 48$

a) $y = 0.54(20) + 48$
$y = 10.80 + 48$
$y = \$58.80$

b) $87 = 0.54x \boxed{+48}$
$\dfrac{39}{0.54} = \dfrac{0.54x}{0.54}$

$x = 72.2$ minutes

c) It's not long distance to call Nelson.