Solutions

For Exercises 3 – 6:

a. Find the slope of the line between the two points

b. Match the slope with the appropriate graph.

3. (1, -2) and (-8, -2)

a. $\frac{-2-(-2)}{-8-1} = \frac{-2+2}{-9} = \frac{0}{-9} = 0$

b. iii

4. (-1, -3) and (1, 5)

a. $\frac{5-(-3)}{1-(-1)} = \frac{5+3}{1+1} = \frac{8}{2} = 4$

b. i

5. (-5, 0) and (-5, 2) can think of as "infinite slope"

a. $\frac{2-0}{-5-(-5)} = \frac{2}{0}$ ✓

b. iv

6. (-3, 2) and (4, 1)

a. $\frac{1-2}{4-(-3)} = \frac{-1}{4+3} = -\frac{1}{7}$

b. ii

i.

ii.

iii.

iv.

Solutions

CLASSROOM ACTIVITY 3.2B

1. What are the x- and y-intercepts of a graph?

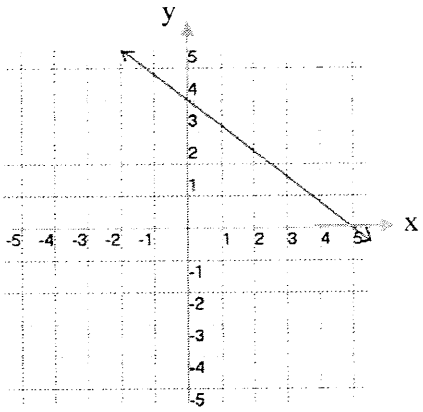
x-intercept: where graph touches x-axis

y-intercept: where graph touches y-axis

2. Identify the x- and y-intercepts of the graphs below.

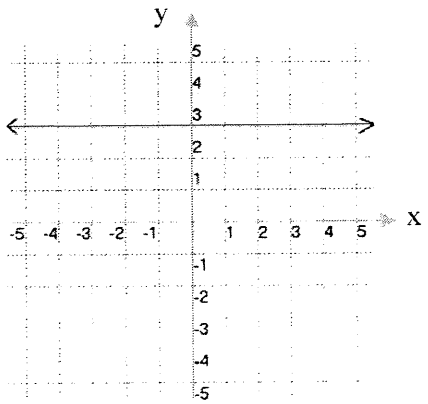
a. x-intercept: (5, 0)

y-intercept: (0, 4)



b. x-intercept: doesn't exist

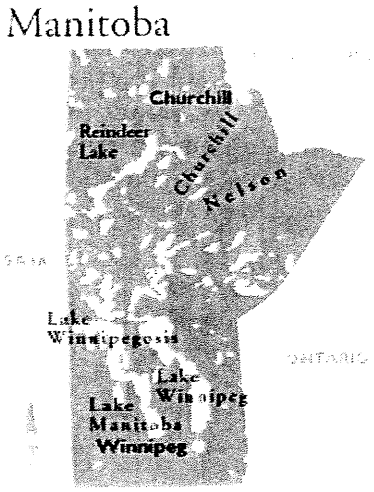
y-intercept: (0, 3)



Solutions

CLASSROOM ACTIVITY 3.1B

1. Churchill, Mantioba, is the northernmost port city on the Hudson Bay in Canada. Besides its port facilities, nearby national park, and Eskimo museum, Churchill is known for having a large gathering of polar bears. Polar bears gather in the Churchill River valley, waiting for the waters to freeze so that they can migrate north and find food along the frozen streambeds.

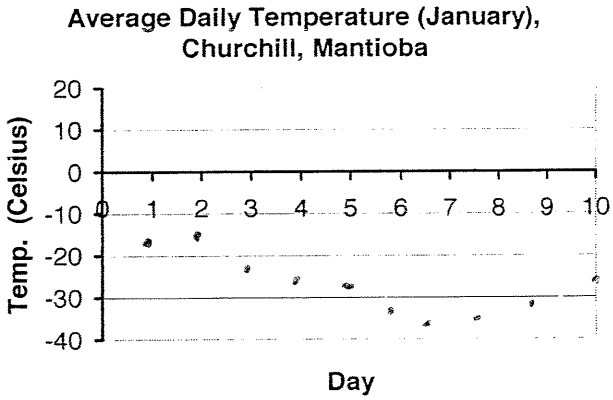


The average temperature in Churchill during January is -27.5° C. The following table shows the average temperature for a ten-day period in January. Plot the points on the graph provided.

Day	Temp. °C
1	-18.7
2	-17.9
3	-21.4
4	-21.5
5	-22.4
6	-32.7
7	-36.4
8	-35.2
9	-31.0
10	-27.4

3.5

3.6



2. Based on the graph, on which day does it appear that a cold front began its move through Churchill?

day 3

3. Based on the graph, between which two consecutive days was the change in temperature the greatest?

9 and 10

4. Based on the graph and the data in the table, between which two consecutive days was the change in temperature the least?

3 and 4

Solutions

CLASSROOM ACTIVITY 2.5B

1. The total cost (including tax) of a pair of tennis shoes is $48.65. If the sales tax rate is 6%, what is the cost of the shoes before tax?

Step 1: Reread the problem

Step 2: Let x represent: cost before tax (i.e. the base)

Step 3: Write an equation in words: BASE + 0.06 · BASE = 48.65

Step 4: Translate the verbal equation to an algebraic equation: $x + 0.06x = 48.65$

Step 5: Solve the equation:

$1.06x = 48.65$

$x = 45.90$

Recall % equation

AMOUNT = (BASE)(%)

~~BASE~~ + ~~TAX~~ = 48.65

TAX = 0.06 · BASE

Step 6: Interpret your answer using a complete sentence:

The cost of the shoes before tax was $45.90.

Solutions

CLASSROOM ACTIVITY 2.4C

1. A manager wants to separate his 24 employees into two teams. One team has six fewer members than twice the other team. How many employees are in each team?

Step 1: Reread the problem.

Step 2: Let x represent: the number of players in team 1.

Step 3: Write an equation in words: $x + (\underbrace{\text{team with 6 fewer members}}_{\text{then twice } x}) = 24$

Step 4: Translate the verbal equation to an algebraic equation: $x + (2x - 6) = 24$

Step 5: Solve the equation:

$3x - 6 = 24$

$3x = 30$

$\therefore$

$x = 10$

Step 6: Interpret your answer using a complete sentence:

One team has 10 members, the other has 14.

Quiz 2.2 Solutions (continued)

7) $3(2z-6)-4(3z+1)=5-2(z+1)$

$6z-18-12z-4=5-2z-2$

$-22-6z=3-2z$

$-22-6z+6z=3-2z+6z$

$-22=3+4z$

$-22-3=3+4z-3$

$-25=4z$

$\frac{-25}{4}=\frac{4z}{4}$

$\boxed{-\frac{25}{4}=z}$

Identify as conditional, contradiction, or identity

1.) $2(k-7)=2k-13$

$2k-14=2k-13$

$\boxed{-14=-13}$

contradiction

~~2.) $2(k-9)=$~~

2.) $5h+4=5(h+1)-1$

$5h+4=5h+5-1$

$5h+4=5h+4$

$\boxed{4=4}$

identity

3.) $2(q+3)=4q+q-9$

$2q+6=5q-9$

$15=3q$

$\boxed{5=q}$

conditional