

4.40 - Questions Handout #s 4 - 10

Check Your Understanding

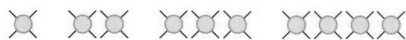
Practise

For help with questions 4 and 5, refer to Example 1.

4. The height of a stack of recycling bins can be modelled using the formula $h = 12 + 3n$.



- Define each variable.
 - Complete a table of values for the heights of one to four bins.
 - Plot the ordered pairs on a grid.
 - Describe the pattern of points.
5. Zenaid looks at the pattern.



He writes the ordered pairs relating the number of circles to the number of lines (1, 4), (2, 8), (3, 12), (4, 16).

- Complete a table of values using the ordered pairs.
- Plot the points on a grid.
- Describe the pattern.

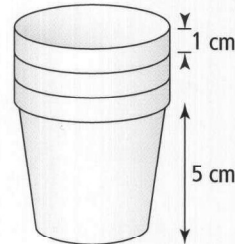
For help with questions 6 and 7, refer to Example 2.

6. A camp counsellor buys T-shirts for his campers. The total cost of up to six T-shirts is shown. He pays a \$25 fee to have the T-shirts designed.

Number of T-shirts	0	1	2	3	4	5
Total Cost (\$)	25	31	37	43	49	55

- Plot the ordered pairs on a grid.
- Describe the relationship between the total cost and the number of T-shirts.
- Write an equation modelling the total cost. Define your variables.

7. Hari measures the heights of stacked plastic cups.



She records her results.

Number of Cups	1	2	3	4	5
Height (cm)	6	7	8	9	10

- Plot the ordered pairs on a grid.
- Describe the relationship between the number of cups and the height of a stack.
- Develop an equation to model the height of a stack of cups.
- What is the height of a stack of 40 cups?

Apply

8. Len buys baseball caps for the geography club. He pays the designer a \$15 set-up fee. The cost for up to five bags of caps is shown.

Number of Bags	0	1	2	3	4	5
Cost (\$)	15	30	45	60	75	90

- Plot the ordered pairs on a grid. Justify your choice of scale on each axis.
- Use a formula to find the cost of eight bags of baseball caps.
- There are five baseball caps in each bag. Describe how to find the price per baseball cap for 5 to 12 caps.

9. Adriana works at a hot dog stand. She earns \$50 per day, plus \$0.20 per hot dog sold.



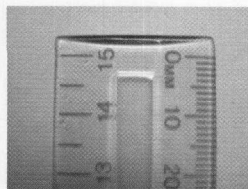
- a) Copy and complete the table of values showing Adriana's earnings.

Number of Hot Dogs Sold per Day	Adriana's Earnings (\$)
0	50
10	52
20	
30	
40	

- b) Plot the ordered pairs on a grid.
 c) Describe the relationship between Adriana's earnings and the number of hot dogs sold.
 d) Express the relationship as an equation.
 e) Adriana sells 100 hot dogs one day. How can you find her earnings that day?



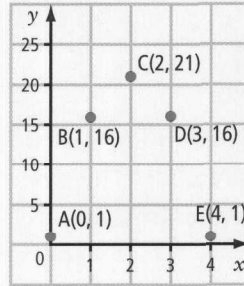
10. Most rulers start the zero line inside the edge of the ruler. One ruler starts the zero line 2 mm inside the edge.



- a) Use pictures, words, and numbers to show the relationship between accurate measurement readings and measurements taken right from the edge of a ruler.
 b) Develop an equation to model the relationship.
 c) Create a table of values for your equation. Then, plot the points on a grid.

Extend

11. Describe the path of points shown. What could the variables, x and y represent?



12. Advertising prices for the classified section of a newspaper are shown.

Number of Lines, n	Price, P (\$)
1 to 6	\$3 per line
7 to 12	\$10 plus \$1.00 per line
13 or more	\$15 plus \$1.25 per line

- a) Develop an equation modelling the price for each length of advertisement.
 b) Your advertisement has 15 lines, but it can be separated into smaller advertisements. How can you get the best price per line for your advertisement?

13. Ruth and Shawn are training for a cross-country running competition. They record the distance each person jogs.

Practice Number, n	Distance, d (km)	
	Ruth	Shawn
1	1.5	3.5
2	3	4.5
3	4.5	5.5
4	6	6.5

- a) Describe the relationship between the distance that Ruth jogs and the practice number. Plot the ordered pairs on a grid.
 b) Repeat part a) using Shawn's data. Plot the ordered pairs on the same grid.
 c) What information can you find if you extend the patterns on the grid? When would you stop extending the pattern? Why?