

12. a) I predict that my classmates' favourite winter activity is skating.  
 b) What is your favourite winter activity: Skating \_\_\_\_\_, Skiing \_\_\_\_\_, Tobogganing \_\_\_\_\_, Playing Hockey \_\_\_\_\_, Other \_\_\_\_\_?

Activity	Number of Students
Skating	HHH
Skiing	HHH III
Tobogganing	IIII
Playing Hockey	HHH II
Other	II

- c) My prediction was wrong. Skiing was the favourite winter activity.  
 13. a) I would use a line graph because time and height are continuous.  
 b) I would use a line graph because time and the life left in the bulb are continuous.  
 c) I would use a series of points because population is discrete. You cannot have part of a person.

12. What is your classmates' favourite winter activity?  
 a) Make a prediction.  
 b) Design a questionnaire you could use to find out.  
 c) Ask the question. Tally the results.  
 d) How do the results compare with your prediction?

13. Would you use a line graph or a series of points to display each set of data? Explain your choices.  
 a) the height of a corn plant as it grows  
 b) the life left in a light bulb as it burns  
 c) the population of your school over the last 10 years

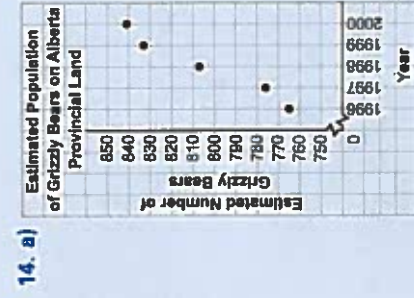
14. This table shows the estimated grizzly bear population on Alberta provincial land (excluding national parks) from 1996 to 2000.

Year	Estimated Number of Grizzly Bears
1996	765
1997	776
1998	807
1999	833
2000	841

- a) Draw a graph to display these data.  
 b) Explain how you chose the vertical scale.  
 c) Did you join the points? Explain.  
 d) What conclusions can you make from the graph?
15. Étienne has a collection of foreign coins. He has 2 coins from Britain, 6 from Japan, 12 from Mexico, and 4 from China. Assume all the coins have the same size and mass. Étienne places the coins in a bag and picks one without looking.

16. Olivie surveyed the Grade 6 students in her school to answer this question: What do you use the Internet for most often? The table shows the data she collected.

Use	Number of Students
E-mail	15
Chatting	18
Downloading Music	12
Homework	8
Other	7



- b) I used a zigzag marking, then started the vertical scale at 750, going up in increments of 10.  
 c) No, I did not join the points. The number of bears is not continuous. You cannot have part of a bear.  
 d) The number of grizzly bears on Alberta provincial land increased from 1996 to 2000.  
 15. a) The outcomes are: a Japanese coin, a Chinese coin, a Mexican coin, and a British coin.  
 b) There are 4 Chinese coins and 24 coins in total. So, the probability of picking a Chinese coin is:  $\frac{4}{24}$ . There are 12 Mexican coins and 24 coins in total.

- So, the probability of picking a Mexican coin is:  $\frac{12}{24}$ . There are 0 Canadian coins and 24 coins in total. So, the probability of picking a Canadian coin is:  $\frac{0}{24}$ . There are 22 coins that are not British and 24 coins in total. So, the probability of picking a coin that is not British is:  $\frac{22}{24}$ .  
 16. a) I chose a vertical bar graph so I could compare the heights of the bars to find what the Internet is used for most often.

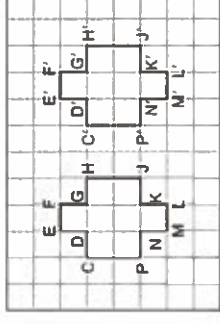


- b) Most students use the Internet for chatting. I know this because the bar for chatting has the greatest height.

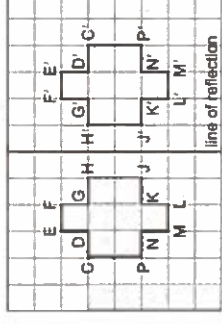
17. a)
- 

- b) I used the scale 1 square represents 10 units because each coordinate is divisible by 10.  
 c) The shape is an irregular pentagon.  
 d) The vertical distance between Q and P is:  $60 - 20 = 40$ . So, the length of PQ is 40 units.

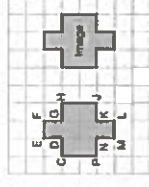
18. A translation of 5 squares right:



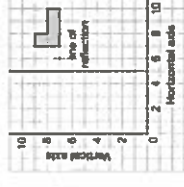
- A reflection in the vertical line halfway between the shape and its image:



18. Draw and label a coordinate grid.  
 a) Plot each point on the grid.  
 b) Join the points in order. Then join T to P.  
 c) What scale did you use? Explain your choice.  
 d) Describe the shape you have drawn.  
 e) Find the length of the vertical side of the shape.

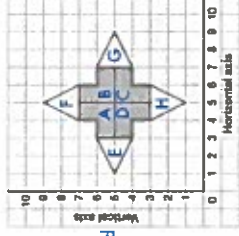


19. Copy this shape and its image on grid paper.  
 a) Describe as many different single transformations as you can that move the shape to its image.  
 b) For each transformation, label the vertices of the image.



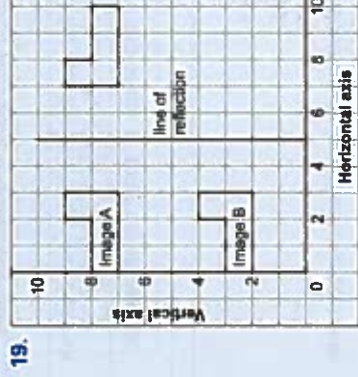
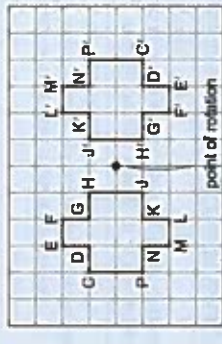
20. Copy the shape and the line of reflection onto a coordinate grid.  
 Reflect the shape in the line of reflection. Then translate the reflection image 5 squares down. What are the coordinates of the final image?

21. Look at your answer to question 19. Suppose you translated the shape first, then reflected the translation image in the line of reflection. What would the coordinates of the final image be?



21. Rhannon designed this logo for her gardening club in Strathcona, Alberta. She transformed copies of 2 shapes to make a flower-like shape.  
 a) Copy the design.  
 b) Identify the 2 original shapes.  
 c) Describe the transformations that could have been used to create the logo.  
 d) Is another set of transformations possible? If your answer is yes, describe the transformations.

- A rotation of  $180^\circ$  about the point midway between the shape and its image:



- 19.

- Coordinates of final image are: (0, 2), (0, 3), (2, 3), (2, 4), (3, 4), (3, 2)

20. The coordinates of the final image would not change. The final image would be in the same location on the coordinate grid as it was in question 19.  
 21. b) Hexagon A could be rotated  $90^\circ$  clockwise,  $180^\circ$ , and  $270^\circ$  clockwise about point (5, 5) to get Images B, C, and D. Triangle E could be rotated  $90^\circ$  clockwise,  $180^\circ$ , and  $270^\circ$  clockwise about the point (5, 5) to get Images F, G, and H.  
 c) Hexagon A could be reflected in its right side to get Image B. Image B could be reflected in its bottom side to get Image C. Image C could be reflected in its left side to get Image D. Triangle E could be reflected in the vertical line through the horizontal axis at 5 to get Image G. Triangle E could be rotated  $90^\circ$  clockwise about point (5, 5) to get Image F. Image F could be reflected in the horizontal line through the vertical axis at 5 to get Image H.