

Probability & Data Analysis Gr 8 TEST Review

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Dr. Shaban measured the height of his daughter every year from her birth to age 14. To see the trend of growth in height, which type of graph would be appropriate to display the data?
 a. Pictograph b. Line graph c. Bar graph d. Circle graph
- _____ 2. Rob and Rebecca organized a bottle recycling program in their school. Rob recorded the number of bottles collected by each boy in his team. Rebecca recorded the number of bottles collected by each girl in her team. Which type of graph would be appropriate to display the data?
 a. Scatter plot c. Double-line graph
 b. Circle graph d. Double-bar graph

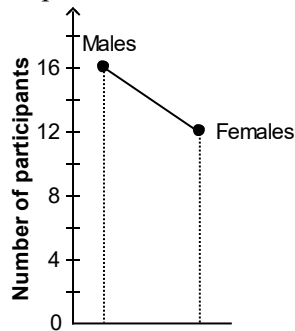
- _____ 3. This table shows the number of students participating in the school recycling program over 5 years.

Year	2004	2005	2006	2007	2008
Number of Students	52	73	87	103	121

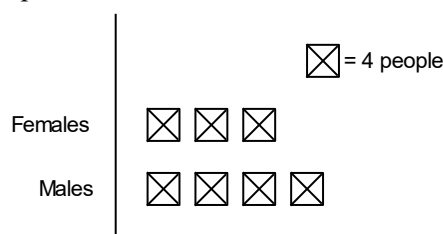
Which type of graph would you use if you want to look for a trend?

- a. Circle graph b. Bar graph c. Line graph d. Pictograph
- _____ 4. These graphs show the number of males and females who took part in a survey.

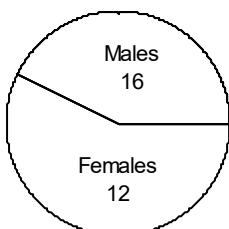
Graph A



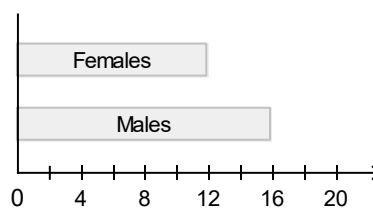
Graph B



Graph C



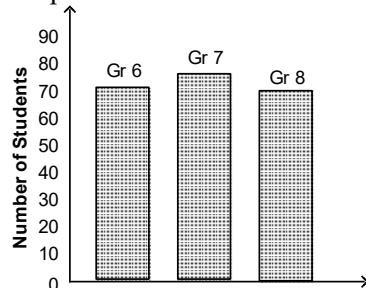
Graph D



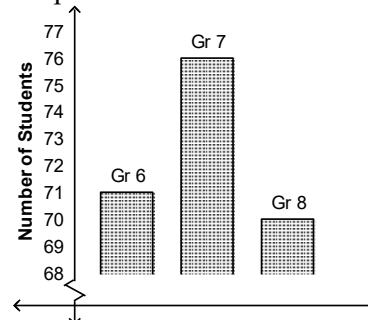
Which graph would be the least suitable way to display the data?

- a. Graph A b. Graph B c. Graph C d. Graph D
- _____ 5. These 2 graphs show the number of students getting an average mark of 80 or higher in each grade at Glenwood Middle School.

Graph A



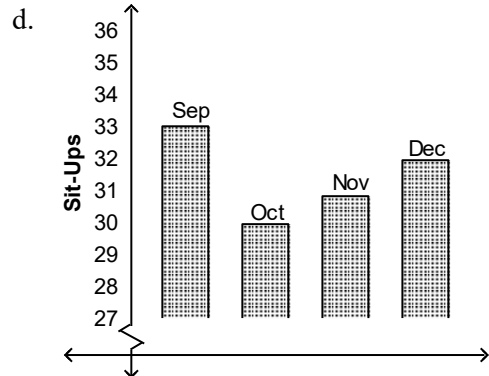
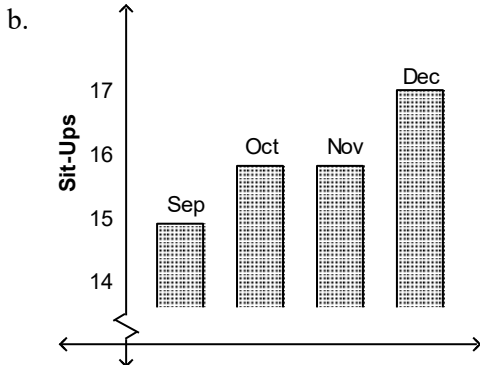
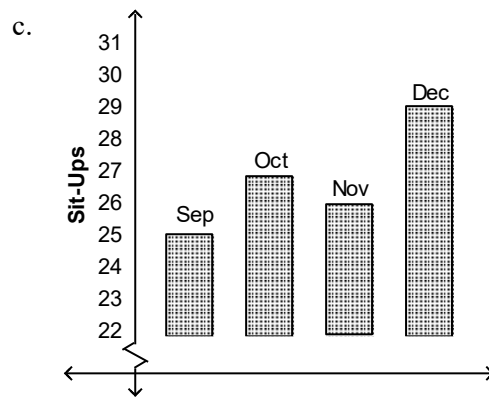
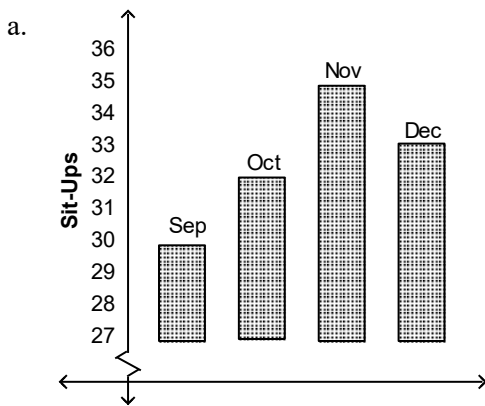
Graph B



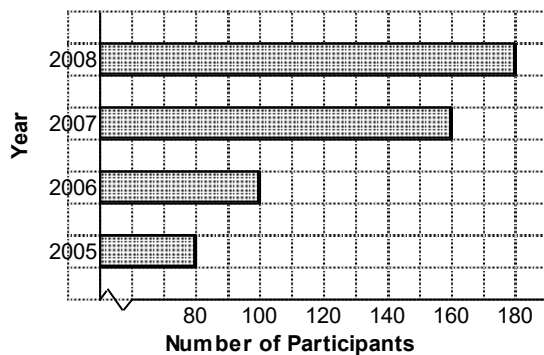
Which statement is true?

- a. The 2 graphs are exactly the same.
 b. Graph A exaggerates the number of students getting 80 or higher.
 c. Graph B shows greater changes in the number of students getting 80 or higher.
 d. Graph B exaggerates the differences in the number of students getting 80 or higher.

6. Which graph suggests that the number of sit-ups Ray did in November was more than double the number of sit-ups he did in September?



7. The graph shows the number of participants in the Fun Run.



Which statement is true?

- The number of participants doubled between 2005 and 2006.
 - The number of participants doubled between 2005 and 2007.
 - There was a 100% increase in the number of participants from 2005 to 2008.
 - There was a 100% increase in the number of participants from 2006 to 2007.
- a. i b. ii c. iii d. iv

8. A clothing manufacturer offers 2 different styles of jeans, relaxed fit and regular fit, in 5 different colours. How many combinations of a style and a colour are possible?

- a. 4 b. 8 c. 7 d. 10

9. Ms. Wong is redecorating her office. She has choices of 6 colours of carpet and 4 styles of furniture. How many possible ways can she choose a colour of carpet and a style of furniture?

- a. 24 ways b. 20 ways c. 28 ways d. 10 ways

10. A coin is tossed and a regular 6-sided die labelled 1 to 6 is rolled. What is the probability of tossing a head and rolling a 5?

- a. $\frac{1}{12}$ b. $\frac{1}{4}$ c. $\frac{2}{3}$ d. $\frac{1}{6}$

11. A red die, a blue die, and a green die are rolled. Each is a regular 6-sided die labelled 1 to 6. What is the probability of rolling an even number on each die?

- a. $\frac{1}{6}$ b. $\frac{1}{216}$ c. $\frac{1}{2}$ d. $\frac{1}{8}$

12. Find the probability that 4 students chosen at random are all born on a Wednesday.

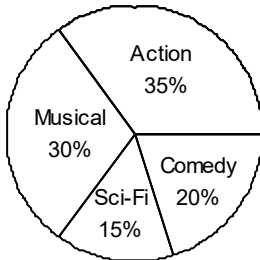
- a. $\frac{1}{256}$ b. $\frac{1}{2401}$ c. $\frac{4}{2401}$ d. $\frac{1}{28}$

13. A spinner has 12 equal sectors. 4 sectors are coloured red, 3 are coloured blue, and 5 are coloured yellow. The pointer on the spinner is spun 3 times. What is the probability of the pointer landing on red each time?
- a. $\frac{1}{27}$ b. $\frac{1}{4}$ c. $\frac{1}{3}$ d. $\frac{1}{144}$

Short Answer

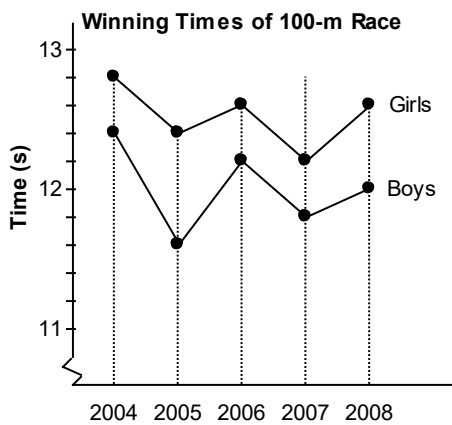
14. This circle graph shows the favourite type of movies of a group of students.

Favourite Type of Movies



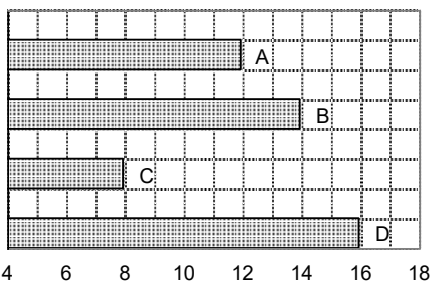
- a) List 3 things you know from the graph.
- b) List 1 thing you cannot tell from the graph.

15. The graph shows the winning times of boys and girls for the inter-school 100-m race for 5 years.



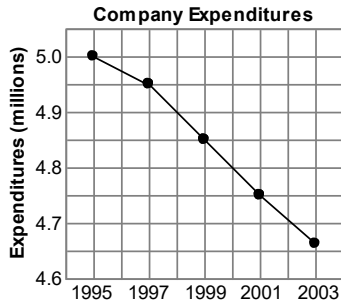
List 3 things you know from the graph.

16. This graph shows the population, in thousands, of 4 towns.



- a) Which town appears to have about twice the population of Town C?
- b) Which town actually has twice the population of Town C?
- c) Explain why the graph is misleading.

17. This graph shows the expenditures of a company over several years.



a) Why is this graph misleading?

b) Explain how the graph could be changed to present the data more accurately.

18. Draw a tree diagram for the choice of pizza combination for a 1-topping pizza. You can order Small, Medium or Large. With toppings of pepper, pineapple, onion. A) What is the probability of a vegie-pizza?

19. A spinner is divided into 4 equal sectors of red, green, blue, and purple. A regular 6-sided die labelled 1 to 6 is rolled and the pointer of the spinner is spun. What is the probability of rolling an even number and the pointer landing on red?

20. A bag contains 15 red marbles, 4 blue marbles, and 1 yellow marbles. A students removes 1 marble without looking, records the colour, then returns the marble to the bag. The process is repeated. What is the probability of each outcome?
- 2 red marbles
 - not a red marble, then not a yellow marble
 - $P(\text{yellow 4 times in a row})$
 - Probability of red then purple