

Mathematics, Grade 10

- 29 The average life spans of some animals are shown in the chart below.

Animal Life Spans

Animal	Average Life Span (in years)
Bear	22
Chicken	7
Deer	12
Dog	11
Duck	10
Elephant	35
Fox	9
Horse	22
Hippopotamus	30
Wolf	11

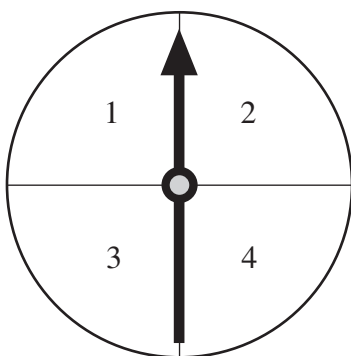
Source: Farmer's Almanac 2000.

Based on the information given in the chart, which of the following statistics yields the greatest numerical value?

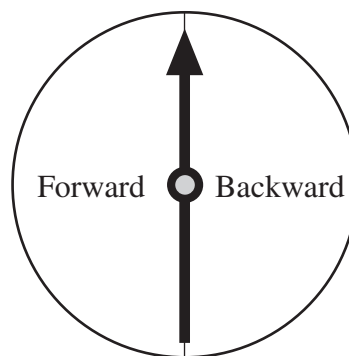
- A. mean
- B. median
- C. mode
- D. range

Reporting Category for Item 29: *Data Analysis, Statistics, and Probability*

- 30 Janet is playing a game using the two spinners shown below. She will spin the arrow on each spinner once and will move a specified number of steps forward or backward according to the results of the spins.



Spinner 1



Spinner 2

What is the probability that Janet will have to move backward **less than** 4 steps?

- A. $\frac{1}{8}$
- B. $\frac{3}{8}$
- C. $\frac{1}{2}$
- D. $\frac{3}{4}$

Reporting Category for Item 30: Data Analysis, Statistics, and Probability

Session 2, Open-Response Question



- 31** When a diver goes underwater, the weight of the water exerts pressure on the diver. The table below shows how the water pressure on the diver increases as the diver's depth increases.

Water Pressure on a Diver

Diver's Depth (in feet)	Water Pressure (in pounds per square inch)
10	4.4
20	8.8
30	13.2
40	17.6
50	22.0

- a. Based on the table above, what will be the water pressure on a diver at a depth of 60 feet? Show your work or explain how you obtained your answer.
- b. Based on the table above, what will be the water pressure on a diver at a depth of 100 feet? Show your work or explain how you obtained your answer.
- c. Write an equation that describes the relationship between the depth, D , and the pressure, P , based on the pattern shown in the table.
- d. Use your equation from part c to determine the depth of the diver, assuming the water pressure on the diver is 46.2 pounds per square inch. Show your work or explain how you obtained your answer.

Reporting Category for Item 31: Patterns, Relations, and Algebra

Mathematics, Grade 10

Session 2, Multiple-Choice Questions



- 32 In her closet, Megan has 6 different T-shirts, 5 different pairs of shorts, and 2 different hats. She pulls out 1 T-shirt, 1 pair of shorts, and 1 hat without looking. How many different combinations of 1 T-shirt, 1 pair of shorts, and 1 hat are possible?
- A. 11
 - B. 16
 - C. 32
 - D. 60

Reporting Category for Item 32: Data Analysis, Statistics, and Probability