

Quantitative Reasoning Assessment Questions (Spring 2020)

Question 1:

You are baking cookies. A recipe you found for 20 cookies calls for 110 grams of sugar and 15 milliliters of vanilla extract. You recall that a US teaspoon is 5 milliliters and a US tablespoon is 3 US teaspoons. You also remember that a cup of sugar is 220 grams. If you were to make 100 cookies, how many cups of sugar would you need and how many tablespoons of vanilla extract? Choose all correct answers.

- a) 1 cup of sugar
- b) 2.5 cups of sugar
- c) 5 cups of sugar
- d) 10 cups of sugar
- e) 1 tablespoon of vanilla extract
- f) 2.5 tablespoons of vanilla extract
- g) 5 tablespoons of vanilla extract
- h) 10 tablespoons of vanilla extract

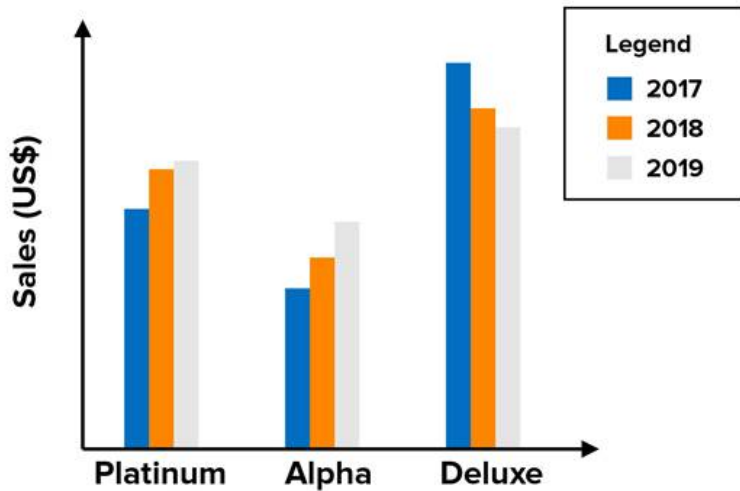
Question 2:

The value of the office supplies account from Cal Poly Inc. on January 1 was \$140, supplies purchased during January were \$60, and the supplies on hand at January 31 were \$40. What was the amount of supplies used in January?

- a) \$240
- b) \$100
- c) \$160
- d) \$140

Question 3:

Based on the graph below. Which category had the greatest percent increase in sales from 2018 to 2019?

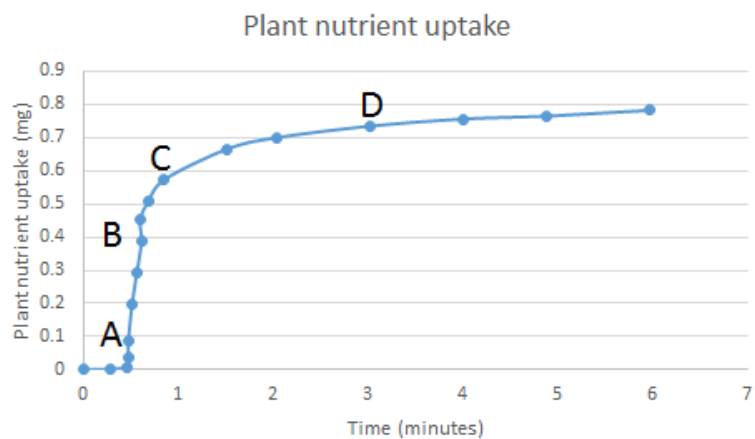


- a) Platinum
- b) Alpha
- c) Deluxe
- d) Unable to determine with the information provided

Question 4:

The graph shows nutrient uptake for a plant over a period of time. Select the phrase that best fits the blank in the following sentence describing the graph. The rate of uptake of the plant in the region AB is _____ that in the region CD.

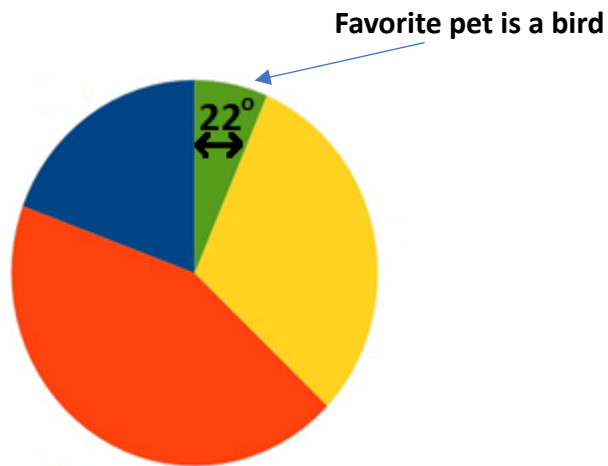
- a) Higher than
- b) Lower than
- c) Equivalent to
- d) Unknown compared to



Question 5:

The pie chart below shows the favorite pet for a population of elementary school students. The portion marked shows the fraction of students whose favorite pet is a bird. What is the approximate percentage of students whose favorite pet is a bird?

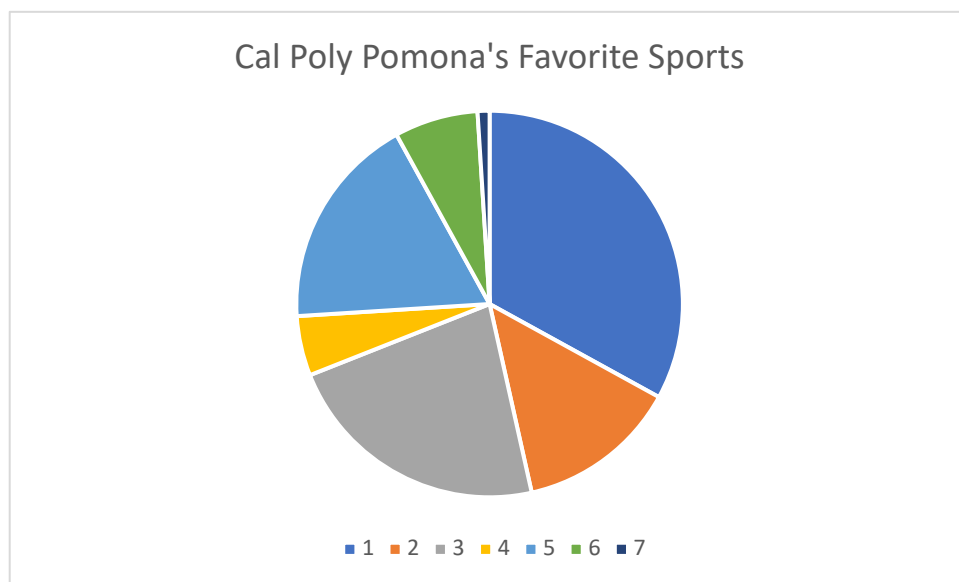
- a) 2 %
- b) 6 %
- c) 18 %
- d) 22%



Question 6:

You are in a class of 24 students. You were given 30 minutes to find out Cal Poly Pomona's favorite sports and respondents' primary department. With this information, the following table and pie chart were created.

Major/ Program	Football	Soccer	Basket- ball	Hockey	Baseball	Running	Swimming	Total
Business	23	17	12	2	8	3	0	65
Engineering	2	4	1	0	3	0	0	10
Hospitality	4	0	4	0	0	0	0	8
Education	2	2	11	2	4	4	1	26
Biology	4	0	5	1	9	3	0	22
Art	10	1	7	4	2	0	1	25
Psychology	21	3	5	1	10	4	0	44
Total	66	27	45	10	36	14	2	200



6a: What sport is represented by section 3?

- a) Basketball
- b) Soccer
- c) Running

6b: What is the percentage difference between those in Business liking hockey and baseball?

_____ %

6c: Select all the statements that are true.

- Soccer is the second favorite sport.

- Team sports are the most popular.
- The percentage of individuals liking basketball is greater than those liking running, hockey and soccer combined.
- There are approximately three times as many respondents in Business as there were in Biology.
- This data is a good representation of society's opinions.

6d: Identify one thing that makes this data problematic or a potential limitation? Support your thought process with evidence.

6e: If you were provided the opportunity to redesign this assignment, what are some ways to make this more representative of Cal Poly Pomona? Explain your thought process.