

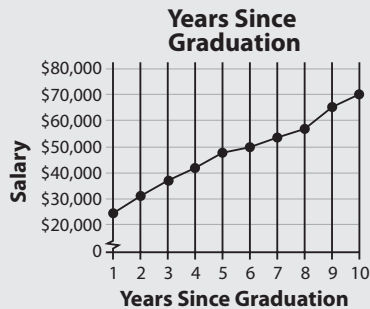
# 32

# Make Predictions

E.4.1.1

## Example

Fukiko’s salary since graduating college is shown below.

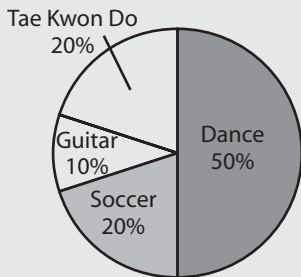


Which is the **best** prediction for Fukiko’s salary in 2 years?

- A \$60,000      C \$80,000
- B \$70,000      D \$90,000

## Example

It usually takes 50 hours of instruction before someone can test for their next belt in tae kwon do. Alexis has 10 hours a week for after-school activities. The circle graph shows how much of her time she devotes to each activity.



Which is the **best estimate** for how long before she can test for her next belt?

- A 6 weeks      C 6 months
- B 12 weeks      D 12 months

## Thinking It Through

**Solve** — *Look for a Pattern* Subtract each year’s salary from the previous year’s to see if there is a pattern to her increases:

$$\begin{array}{ll}
 \$70,000 - \$65,000 = \$5,000 & \$48,000 - \$42,000 = \$6,000 \\
 \$65,000 - \$57,000 = \$8,000 & \$42,000 - \$38,000 = \$4,000 \\
 \$57,000 - \$54,000 = \$3,000 & \$38,000 - \$31,000 = \$7,000 \\
 \$54,000 - \$50,000 = \$4,000 & \$31,000 - \$25,000 = \$6,000 \\
 \$50,000 - \$48,000 = \$2,000 &
 \end{array}$$

She received a salary increase every year, so eliminate choice A (her salary goes down) and choice B (her salary stays the same).

Her largest increase was \$8,000. Eliminate choice D as being too large.

Her average increase was \$5,000 (the sum of her increases divided by the number of increases). Two years of \$5,000 increases would give her a salary of \$80,000, choice C.

## Thinking It Through

**Circle graphs** are used to show how parts relate to a whole. Each category of data will occupy as much of the circle as its percentage of the total. If Alexis spends 50% of her time dancing, then the “Dance” category will be 50% of the circle graph.

**Solve** Determine how many hours Alexis spends per week on tae kwon do. Multiply 10 hours  $\times$  20% = 10  $\times$  0.20 = 2 hours per week.

At 2 hours per week, it will take her 25 weeks to be ready for her test.

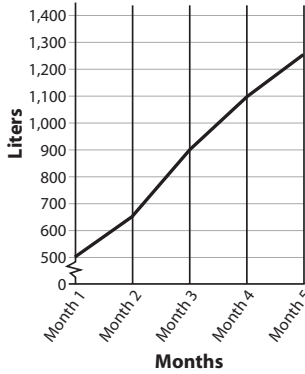
Since there are approximately 4 weeks in a month, 25 weeks is about 6 months, choice C.

**Assemble** Sometimes you can use what you know to help solve or check an answer. Do you know anyone who has taken tae kwon do? If you do, about how long did it usually take them to get a new belt? You can eliminate answers that are much shorter or longer than what you know from your real-life experience.

# Make Predictions

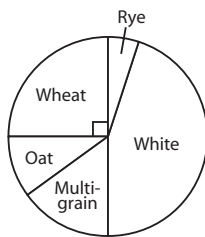
**DIRECTIONS** Read and solve each question. Then circle the letter of the best answer.

1. The line graph below shows the olive oil sales for a company over a period of 5 months.



Based on this data, what is the **best** estimate for expected sales in Month 6?

- A 1,100 liters                      C 1,400 liters  
 B 1,200 liters                      D 2,000 liters
2. The circle graph below shows the types of breads in stock at Jerry's Deli.



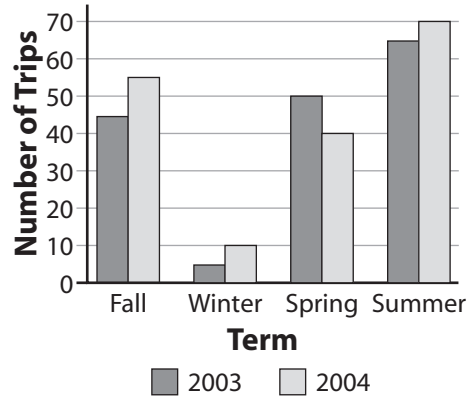
If there are 56 loaves of bread in total, about how many loaves are wheat?

- A 14                                      C 28  
 B 16                                      D 36

What fraction of the total loaves are wheat?

3. Alamar Escapes offers cruises year round as shown in the graph below.

**Alamar Escapes  
(Cruise Trips)**



Which season showed an increase of about 20% from the number of cruises in 2003 to the number of cruises in 2004?

- A fall                                      C spring  
 B winter                                      D summer
4. Jaime and Adam are conducting an experiment in which they toss a slice of toast. One side of the toast is buttered and one side is plain. Out of 500 tosses, the toast landed buttered side up 217 times and buttered side down 283 times. Based on these results, if they toss the toast another 1,000 times, about how many times would they expect it to land buttered side down?

- A 283                                      C 500  
 B 434                                      D 566