



Math On the Spot

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# Using Experimental Probability to Make a Qualitative Prediction

A prediction is something you reasonably expect to happen in the future. A qualitative prediction helps you decide which situation is more likely in general.

## EXAMPLE 2



TEKS 7.6.H

A doctor's office records data and concludes that, on average, 11% of patients call to reschedule their appointments per week. The office manager predicts that 23 appointments will be rescheduled out of the 240 total appointments during next week. Explain whether the prediction is reasonable.

**Method 1: Use a proportion.**

$$\frac{11}{100} = \frac{x}{240}$$

Write a proportion. 11 out of 100 is how many out of 240?

$$\frac{11}{100} = \frac{x}{240}$$

$$\times 2.4$$

$$\frac{11}{100} = \frac{26.4}{240}$$

Since 100 times 2.4 is 240, multiply 11 times 2.4 to find the value of x.

$$\times 2.4$$

$$x = 26.4$$

26.4 is the average number of patients that would call to reschedule.

**Method 2: Use a percent equation.**

$$0.11 \cdot 240 = x$$

Find 11% of 240.

$$26.4 = x$$

Solve for x.

The prediction of 23 is reasonable but a little low, because 23 is a little less than 26.4.

## Reflect

2. Does 26.4 make sense for the number of patients? Explain.

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## YOUR TURN

3. In emails to monthly readers of a newsletter 3% of the emails come back undelivered. The editor predicts that if he sends out 12,372 emails, he will receive 437 notices for undelivered email. Do you agree with his prediction?

Explain. \_\_\_\_\_  
\_\_\_\_\_



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