

ANSWERS

PERCENTAGE OF ERROR

Read carefully, each problem presents an estimated value and a real one. Use the percentage error formula. Write your answer, include your answer as a percentage to two decimal places..

$$\text{Percent Error} = \frac{\text{Actual Value} - \text{Estimated Value}}{\text{Actual Value}} \times 100\%$$

- 1) A dietitian estimated a meal to contain 500 calories, but lab analysis showed it actually contained 550 calories.

Solution:

$$\text{Percent Error: } \frac{550 - 500}{550} \times 100 = \frac{50}{550} \times 100 = 9.09 \%$$

- 2) An engineer estimated the production of 200 widgets per day, but the factory only produced 185 widgets per day.

Solution:

$$\text{Percent Error: } \frac{185 - 200}{185} \times 100 = \frac{-15}{185} \times 100 = -8.11 \%$$

- 3) A real estate appraiser estimated a property value at \$300,000, but the property sold for \$285,000.

Solution:

$$\text{Percent Error: } \frac{285,000 - 300,000}{285,000} \times 100 = \frac{-15,000}{725} \times 100 = -5.26 \%$$

- 4) A teacher estimated that 40 students would pass the exam, but actually 35 students passed.

Solution:

$$\text{Percent Error: } \frac{35 - 40}{35} \times 100 = \frac{-5}{35} \times 100 = -14.29 \%$$

- 5) A fitness app predicted a runner would finish a marathon in 4 hours, but he finished in 4 hours and 30 minutes.

Solution:

$$\text{Percent Error: } \frac{270 - 240}{270} \times 100 = \frac{30}{270} \times 100 = 11.11 \%$$

How Did You Do? 😊 😐 😞