

Multiplying & Dividing Fractions Homework

Directions: Be sure to show all work, communicate your thought process, and justify your reasoning. Remember to check that your answers are complete, correct, and reasonable.

~ *Simplify each expression.*

1. $\frac{1}{3} * \frac{5}{8} * -\frac{1}{3}$

2. $\frac{2}{3} * \frac{1}{7}$

3. $\frac{1}{13} * \frac{4}{5}$

4. $1\frac{1}{2} * -\frac{2}{3} * \frac{1}{5}$

5. $1\frac{2}{3} \div \frac{1}{6}$

6. $\frac{3}{8} \div \frac{1}{4}$

* For problems 7-9, $m = -\frac{4}{5}$, $n = \frac{2}{3}$, and $p = \frac{1}{10}$.

7. $m \div n$

8. $mn + np$

9. $p \div m$

~ *Write and simplify a numerical expression to solve each problem.*

10. A recipe for 25 brownies calls for $3\frac{1}{4}$ cups of flour. If you only want to bake five brownies, how much flour should you use? Justify your response.
11. A horse canters one-sixth of a mile in two minutes. Assuming the horse maintains a steady pace, how far can she canter in ten minutes? Justify your response.
12. A recipe for an egg white burrito calls for $3\frac{1}{2}$ tablespoons of guacamole. If you need to make three burritos, how much guacamole should you use? Explain.
13. You are jogging through a park that is $1\frac{3}{4}$ miles long. If you are halfway through the park, how many miles have you jogged? Explain.

Selected Solutions

1. $-\frac{5}{72}$ 3. $\frac{4}{65}$ 5. 10 7. -1 and $\frac{1}{5}$ 9. $-\frac{1}{8}$

11. The horse can canter five-sixths of a mile in 10 minutes. Ten minutes is five times two minutes, so multiply the distance the horse canters in two minutes by 5. $\frac{1}{6} * 5 = \frac{5}{6}$.

13. You have jogged seven-eighths of a mile. $1\frac{3}{4}$ divided by 2 is the same as $1\frac{3}{4} * \frac{1}{2}$, which is $\frac{7}{4} * \frac{1}{2}$, which equals $\frac{7}{8}$. Therefore, half of $1\frac{3}{4}$ is $\frac{7}{8}$. You could also check this by adding $\frac{7}{8} + \frac{7}{8}$ to obtain $\frac{14}{8}$, which simplifies to $\frac{7}{4}$, which simplifies to $1\frac{3}{4}$ miles. (*explanations will vary*)