



Name _____

Unit 2 Rational Numbers Assessment

STUDY GUIDE

1. Bart ate $\frac{3}{5}$ of a Subway sandwich. Lisa ate $\frac{2}{3}$ of her sandwich. What fraction of a sandwich did they eat in total?

$$3 \cdot \frac{3}{5} + \frac{2}{3} \cdot 5$$
$$\frac{9}{15} + \frac{10}{15} = \frac{19}{15} = \boxed{1 \frac{4}{15} \text{ total}}$$

2. Sarah built $\frac{3}{4}$ of a scarecrow for her autumn decorations. Valerie came over and worked on $\frac{1}{5}$ of the scarecrow while Sarah was away at work. They finished the scarecrow together when Sarah came home from work. What fraction of the scarecrow did they build together?

$$5 \cdot \frac{3}{4} + \frac{1}{5} \cdot 4$$
$$\frac{15}{20} + \frac{4}{20} = \frac{19}{20} \text{ already done}$$
$$\frac{20}{20} - \frac{19}{20} = \frac{1}{20} \text{ built together}$$

(one whole)

3. Kristen had \$204.45 in her account on Wednesday. She deposited \$32.18 on Thursday, then withdrew \$97.85 on Friday to go out with some friends. How much did Kristen have left in her account?

$$\begin{array}{r} 204.45 \\ + 32.18 \\ \hline 236.63 \end{array}$$
$$\begin{array}{r} 1236.63 \\ - 97.85 \\ \hline 138.78 \end{array}$$

$\boxed{\$138.78 \text{ left}}$

4. A board is $25 \frac{1}{5}$ -feet long. Into how many $1 \frac{3}{5}$ -foot pieces can it be cut?

$$25 \frac{1}{5} \div 1 \frac{3}{5}$$
$$\frac{126}{5} \div \frac{8}{5}$$
$$\frac{126}{5} \cdot \frac{5}{8} = \frac{126}{8} = 15 \frac{6}{8} \text{ or } 15 \frac{3}{4}$$

so $\boxed{15 \text{ pieces}}$

5. Karen purchased a bike on sale. The original price was \$180. The sale price was $\frac{2}{3}$ of the original price. How much did Karen pay for the bike? Show all your work.

$$\frac{2}{3} \text{ of } 180$$
$$\frac{2}{3} \cdot \frac{180}{1} = \frac{120}{1} = \boxed{\$120 \text{ on sale}}$$

6. Michael bought a tablet from a friend for \$58. Jadyn spent $2 \frac{1}{2}$ times as much buying her tablet from the store. How much did she spend? Show all your work.

$$58 \cdot 2 \frac{1}{2}$$
$$58 \cdot \frac{5}{2} = \frac{290}{2} = \boxed{\$145}$$

7. Haylee went to Wal-mart to buy random things. She bought a CD out of the bargain bin for \$4.99, a gallon of milk for \$2.58, and a container of popcorn chicken for \$2.50. She paid the cashier with a \$20 bill. How much change did Haylee receive? Show all of your work.

$$\begin{array}{r} 4.99 \\ + 2.58 \\ + 2.50 \\ \hline 10.07 \end{array}$$

$$\begin{array}{r} 20.00 \\ - 10.07 \\ \hline 9.93 \end{array}$$

\$9.93 is change received

8. What is the value of $-9.2 \div 2.5$? Show all of your work.

$$2.5 \overline{) 9.2}$$

$$\begin{array}{r} 3.68 \\ 2.5 \overline{) 9.20} \\ \underline{75} \\ 170 \\ \underline{150} \\ 200 \\ \underline{200} \\ 0 \end{array}$$

-3.68

9. A) What is the value of $(2.3)(-.31)$?

$$\begin{array}{r} 2.3 \\ \times .31 \\ \hline 23 \\ 690 \\ \hline .713 \end{array}$$

B) What could you multiply your answer in part A by to make your product larger than 10? Explain your reasoning. *Answers vary, but it HAS to be negative. Ex: -20*

10. Wyatt has \$20.25 in his account at school. How many school breakfasts could he buy if each breakfast costs \$1.35? Show all of your work.

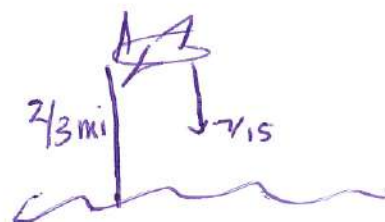
$$1.35 \overline{) 20.25}$$

$$\begin{array}{r} 15 \\ 1.35 \overline{) 20.25} \\ \underline{135} \\ 675 \\ \underline{675} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \\ 135 \\ \hline 5 \\ 675 \end{array}$$

11. A small airplane is $\frac{2}{3}$ of a mile above sea level. A bird is $\frac{7}{15}$ of a mile below the plane. What fraction of a mile is the bird away from sea level? Show all of your work.

$$\frac{2}{3} - \frac{7}{15} = \frac{10}{15} - \frac{7}{15} = \frac{3}{15} \div 3 = \frac{1}{5} \text{ of a mile}$$



12. $-16.543 + (2.3) =$

$$\begin{array}{r} 16.543 \\ + 2.3 \\ \hline -14.243 \end{array}$$

13. $1\frac{2}{3} \cdot -3\frac{3}{5} =$

$$\frac{5}{3} \cdot -\frac{18}{5} = -\frac{90}{15} \div 5 = -\frac{18}{3} \div 3 = -\frac{6}{1} = -6$$