

Name: _____

Date: _____

5th Grade Module 3 Study Guide

Answer the questions below using pictures, numbers, or words to explain your thinking for each answer, including the multiple choice. (PS3.LT2)

1. $4\frac{1}{2} + 3\frac{1}{6} =$

$$4 + \left(\frac{1}{2} \times 3 \frac{3}{6}\right) + 3 + \left(\frac{1}{6} \times 1 \frac{1}{6}\right)$$

$$(4 + 3) + \left(\frac{3}{6} + \frac{1}{6}\right)$$

$$7\frac{4}{6} \div 2 = 7\frac{2}{3}$$

2. $2\frac{1}{4} - 1\frac{1}{5} =$

$$2 + \left(\frac{1}{4} \times 5 \frac{5}{20}\right) - 1 + \left(\frac{1}{5} \times 4 \frac{4}{20}\right)$$

$$(2 - 1) + \left(\frac{5}{20} - \frac{4}{20}\right)$$

$$1\frac{1}{20}$$

3. Select the **two** values that correctly represent the total of $2\frac{1}{3} + 3\frac{4}{5}$

a. $6\frac{2}{15}$

b. $5\frac{5}{8}$

c. $6\frac{17}{15}$

d. $5\frac{17}{15}$

$$2 + \left(\frac{1}{3} \times 5 \frac{5}{15}\right) + 3 + \left(\frac{4}{5} \times 3 \frac{12}{15}\right)$$

$$(2 + 3) + \left(\frac{5}{15} + \frac{12}{15}\right)$$

$$5\frac{17}{15}$$

$$5 + \frac{15}{15} + \frac{2}{15} = 6\frac{2}{15}$$

4. Select the **two** values that correctly represent the difference between

$$6\frac{5}{12} - 2\frac{2}{3}$$

a. $3\frac{9}{12}$

b. $4\frac{9}{12}$

c. $3\frac{3}{4}$

d. $4\frac{3}{4}$

$$6\frac{5}{12} - 2\frac{2}{3}$$

$$4 + \left(\frac{5}{12} - \frac{5}{12}\right) - \left(\frac{2}{3} \times 4 \frac{8}{12}\right)$$

$$4 + \left(\frac{5}{12} - \frac{8}{12}\right)$$

$$3 + \left(\frac{12}{12} + \frac{5}{12}\right) - \frac{8}{12}$$

$$3 + \left(\frac{17}{12} - \frac{8}{12}\right)$$

$$3\frac{9}{12} \div 3 = 3\frac{3}{4}$$

$$5 + \left(\frac{5}{12} - \frac{5}{12}\right) + \frac{12}{12} = \frac{17}{12}$$

$$- 2 + \left(\frac{2}{3} \times 4 \frac{8}{12}\right) - \frac{8}{12}$$

$$3\frac{9}{12}$$

$$3\frac{9}{12} \div 3 = 3\frac{3}{4}$$

9: ① ③ 9

12: ① 2 ③ 4 6 12

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5. Jasmine had $2\frac{3}{4}$ gallon of milk. At breakfast, her brother drank $\frac{1}{5}$ gallon of milk and she drank $\frac{1}{4}$ gallon.

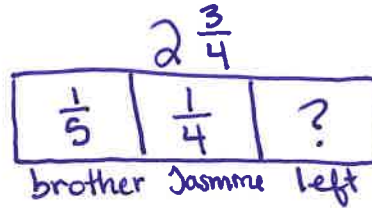
a. Which **two** expressions could Jasmine use to find out how many gallons of milk she has left?

A. $(2\frac{3}{4} + \frac{1}{5}) - \frac{1}{4}$

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

C. $2\frac{3}{4} - (\frac{1}{5} + \frac{1}{4})$

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



b. How many gallons of milk did Jasmine have left? Explain your answer using words, pictures, or numbers.

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

$$2 + (\frac{3}{4} \times \frac{5}{5}) - (\frac{1}{5} \times \frac{4}{4}) - (\frac{1}{4} \times \frac{5}{5})$$

$$2\frac{6}{20} = 2\frac{3}{10}$$

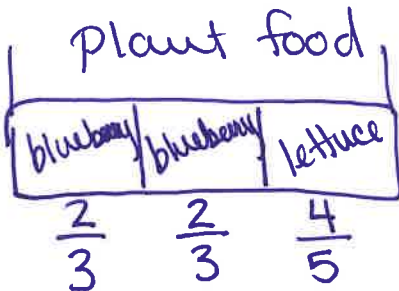
$$2\frac{3}{4} - (\frac{1}{5} + \frac{1}{4})$$

$$2\frac{15}{20} - (\frac{4}{20} + \frac{5}{20})$$

$$2\frac{15}{20} - \frac{9}{20} = 2\frac{6}{20} \text{ or } 2\frac{3}{10}$$

6. On Wednesday, Sheldon wants to feed his blueberry plants 2 times and his lettuce plants one time. If he uses $\frac{2}{3}$ kg on his blueberry plants **each time** and $\frac{4}{5}$ kg on his lettuce plant, how much plant food will he need altogether? Explain your answer using words, pictures, or numbers.

Sheldon will use $2\frac{2}{15}$ kg of plant food



$$(\frac{2}{3} + \frac{2}{3}) + \frac{4}{5}$$

$$\frac{4}{3} + \frac{4}{5}$$

$$(\frac{4}{3} \times \frac{20}{20}) + (\frac{4}{5} \times \frac{12}{15})$$

$$\frac{32}{15} = \boxed{2\frac{2}{15}}$$

$$15 \overline{)32}$$

$$\underline{-30}$$

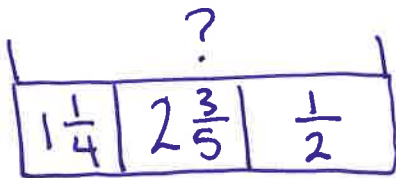
$$2$$

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Level 4

1. Elaine walked $1\frac{1}{4}$ miles. She then stopped at the soccer field. After playing at the soccer field, she walked another $2\frac{3}{5}$ miles and stopped to rest. Then, Elaine walked an additional $\frac{1}{2}$ mile. How many miles did Elaine walk altogether? Show your answer in decimal form to demonstrate level 4 knowledge.



Elaine walked 4.35 miles.

$$1\frac{1}{4} + 2\frac{3}{5} + \frac{1}{2}$$

$$1 + \left(\frac{1}{4} \times \frac{5}{5}\right) + 2 + \left(\frac{3}{5} \times \frac{12}{12}\right) + \left(\frac{1}{2} \times \frac{10}{10}\right)$$

$$(1 + 2) + \left(\frac{5}{20} + \frac{12}{20} + \frac{10}{20}\right)$$

$$3 + \frac{27}{20}$$

$$3 + \frac{27}{20} = 3\frac{27}{20}$$

$$3 + \frac{20}{20} + \frac{7}{20} = 4\frac{7}{20}$$

$$= 4.35$$

$$\begin{array}{r} \overline{) 7.00} \\ \underline{- 60} \\ \underline{100} \\ \underline{- 100} \\ 0 \end{array}$$

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Level 4

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2. Solve the expression (PS4.LT2)

$3a^3 + 3a^2$ where $a = 4$

$$\begin{aligned} & 3(4)^3 + 3(4)^2 \\ & 3 \times (4 \times 4 \times 4) + 3 \times (4 \times 4) \\ & (3 \times 64) + (3 \times 16) \\ & 192 + 48 \\ & = 240 \end{aligned}$$

$$\begin{array}{r} 192 \\ + 48 \\ \hline 240 \end{array}$$
$$\begin{array}{r} 16 \\ \times 3 \\ \hline 48 \end{array}$$