Name Answer Key Date _____

Unit 5 Study Guide: Fractions and Mixed Numbers

(1) **a.** Write an equation to show $\frac{3}{8}$ as the sum of unit fractions.

$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{3}{8}$

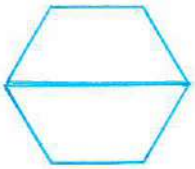
b. Decompose each fraction in two different ways. Write equations to show each fraction as a sum of fractions with the same denominator.

Ex: $\frac{5}{6}$ $\frac{1}{6} + \frac{4}{6} = \frac{5}{6}$ and $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$

Sample answers $1\frac{3}{4}$ $\frac{4}{4} + \frac{3}{4} = \frac{7}{4}$ or $1\frac{3}{4}$ and $\frac{5}{4} + \frac{2}{4} = \frac{7}{4}$ or $1\frac{3}{4}$

(2) Use your Geometry Template to draw the solution.
Then write an equation for your answer.

If  is $\frac{1}{2}$, what is the whole?

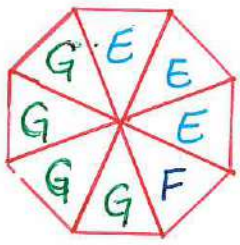


Equation: $\frac{1}{2} + \frac{1}{2} = \frac{2}{2}$ or 1

Use manipulatives or drawings to help you solve Problems 3 – 5.

(3) Elly, Francisco, and Ginger shared a quart of ice cream. Elly ate $\frac{3}{8}$, Francisco ate $\frac{1}{8}$, and Ginger ate $\frac{4}{8}$. How much ice cream did they eat?

Number model with unknown: $\frac{3}{8} + \frac{1}{8} + \frac{4}{8} = \square$



Answer: $\frac{8}{8}$ or 1 quart

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④ Mr. Baker uses $1\frac{2}{6}$ cups of walnuts to make homemade granola. Mrs. Cook uses $2\frac{3}{6}$ cups of walnuts to make homemade granola. How many walnuts do they use altogether.

Number model with unknown: $2\frac{3}{6} + 1\frac{2}{6} = w$

Answer: $3\frac{5}{6}$ cups

Use manipulatives or drawings to help you solve the following problems.

⑤ * Be careful!

a. $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

b. $\frac{6}{8} + \frac{3}{8} = \frac{9}{8}$ or $1\frac{1}{8}$

c. $3\frac{1}{3} + 1\frac{1}{3} = 4\frac{2}{3}$ or $\frac{14}{3}$

$\frac{10}{3} + \frac{4}{3} =$

* d. $2\frac{2}{5} + 1\frac{4}{5} = 4\frac{1}{5}$ $(2+1=3,\ \frac{2}{5}+\frac{4}{5}=\frac{6}{5}$ or $1\frac{1}{5})$

$\frac{12}{5} + \frac{9}{5} = \frac{21}{5}$ or $4\frac{1}{5}$

⑥ Solve.

$\frac{4}{10} + \frac{30}{100} =$ $\frac{70}{100}$ or $\frac{7}{10}$

* $3\frac{6}{5}$ WILL NOT be an acceptable answer.

Use manipulatives or drawings to help you solve Problems 7 – 9.

⑦ At lunch, Arnell drank $\frac{3}{9}$ of a pint of milk. Stacy drank $\frac{7}{9}$ of a pint of milk. How much more milk did Stacy drink than Arnell?

Number Model with unknown: $7/9 - 3/9 = m$

Answer: $4/9$ pint

⑧ Nola lives $3\frac{2}{5}$ blocks from her new school. She lived $2\frac{4}{5}$ blocks from her old school. How much farther from home is her new school than her old school? →

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(8) Number model with unknown: $3\frac{2}{5} - 2\frac{4}{5} = b$ (OR) $\frac{17}{5} - \frac{14}{5} = b$

$2\frac{7}{5}$
$-2\frac{4}{5}$
$0\frac{3}{5}$

Answer: 3/5 blocks

Subtract. ★ Be careful!

(9) a. $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

b. $\frac{4}{10} = \frac{7}{10} - \frac{3}{10}$

c. $4\frac{3}{6} - 2\frac{2}{6} = 2\frac{1}{6}$ OR $\frac{27}{6} - \frac{14}{6} = \frac{13}{6}$

★d. $3\frac{3}{5}$ or $\frac{18}{5}$ $= 6\frac{2}{5} - 2\frac{4}{5}$

$5\frac{7}{5}$
$-2\frac{4}{5}$
$3\frac{3}{5}$

$\frac{32}{5} - \frac{14}{5} = \frac{18}{5}$

(10) Use the data to create a line plot and answer questions about it. Mr. Blaire's class measured their pencil lengths to the nearest $\frac{1}{2}$ centimeter. The measurements they gathered were:

$7\frac{1}{2}, 7, 7, 6\frac{1}{2}, 7\frac{1}{2}, 7\frac{1}{2}, 6\frac{1}{2}, 8\frac{1}{2}, 8,$

a. Make a line plot displaying the data. Be sure to include the title and the label.

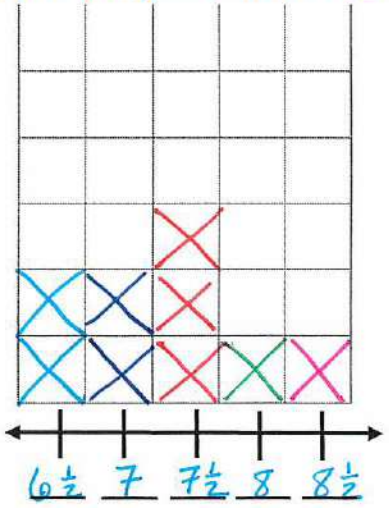
b. What is the length of the longest pencil? 8 1/2 cm

c. What it the length of the shortest pencil? 6 1/2 cm

d. What is the difference in length between the longest and shortest pencil? Write a number model to show your solution:

$8\frac{1}{2} - 6\frac{1}{2} = 2$ cm

title: Pencil Lengths in Mr Blaire's Class



label: length (cm)

(11) Draw pictures of these turns, using an arc to show the direction of each one. —>

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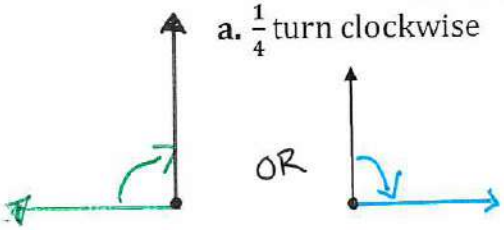
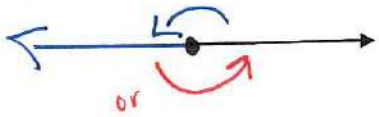
(11) The vertex of the angle and one side have already been drawn for you.

– SAMPLE ANSWERS –

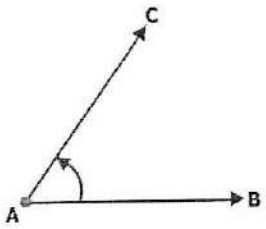
a. $\frac{1}{4}$ turn clockwise



b. $\frac{1}{2}$ turn counterclockwise



(12) a. Estimate the size of the angle to the right.
Circle the best answer.



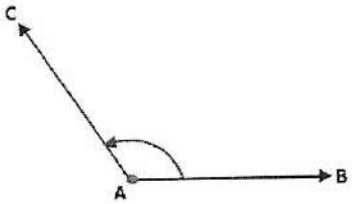
0 – 90 degrees

90 degrees

91 – 180 degrees

Angle CAB is a(n) acute (*acute, obtuse, right*) angle.

b. Estimate the size of the angle to the right.
Circle the best answer.



0 – 90 degrees

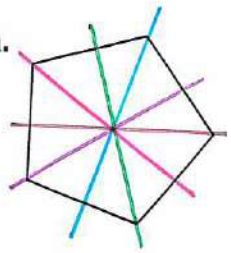
90 degrees

91 – 180 degrees

Angle CAB is a(n) obtuse (*acute, obtuse, right*) angle.

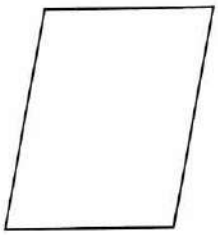
(13) Draw all the lines of symmetry for the shapes that are symmetrical.

a.



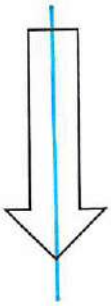
5 total

b.



none

c.



1 total

(14) Finish the drawing so that it is symmetric. —>

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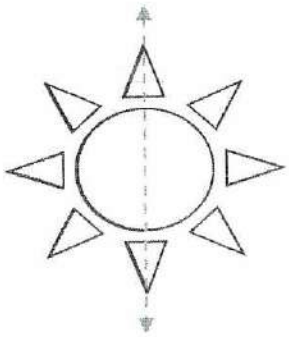
14.



15) Three girls want to start a dog walking business. They each need a leash and a bag of dog treats. Together, they have $60. If each leash is $15 and each bag of dog treats costs $4, how much money will the girls have left over after they purchase all of the items?

Number model with unknown: $60 - ((15+4)*3) = d$

1) $15 + 4 = 19$
2) $19 * 3 = 57$
3) $60 - 57 = 3$

OR

$60 - ((15*3) + (4*3)) = d$

Answer with unit: $3