

Circle the LETTER of the correct answer for #1-3.

(7 pts)1. Kiley has $\frac{7}{8}$ cups of sugar and a cookie recipe calls for $\frac{1}{4}$ cups. How many full recipes can she make and how much sugar will she have left over?

- A. 4 recipes and $\frac{1}{2}$ cup of sugar left over
- B. 3 recipes and $\frac{1}{8}$ cup of sugar left over
- C. 7 recipes and $\frac{1}{8}$ cup of sugar left over
- D. 3 recipes and $\frac{1}{2}$ cup of sugar left over
- E. 4 recipes and $\frac{1}{4}$ cup of sugar left over

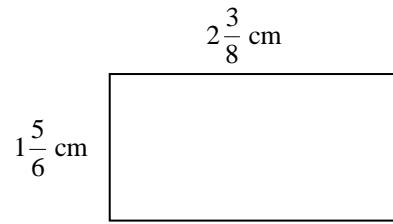
(7 pts)2. Three construction crews worked on a repaving project. Crew A completed one third as much as Crew B. Crew C completed twice as much as Crew B. If they repaved 12 miles of highway, how many miles did Crew B complete?

- A. 2.4 miles
- B. 4 miles
- C. 3 miles
- D. 3.6 miles
- E. 1.2 miles

(7 pts)3. $3\frac{1}{5} \times \left(-\frac{7}{12}\right) =$

- A. $1\frac{17}{30}$
- B. $-1\frac{17}{30}$
- C. $-1\frac{13}{15}$
- D. $1\frac{13}{15}$
- E. None of the above

- (8 pts)4. Determine the perimeter and area of the rectangle.
Show your work.



Perimeter: _____

Area: _____

- (8 pts)5. Determine the sale price of a chair originally priced at \$280 marked 15% off. Show two distinct arithmetic methods.

Method I

Method II

- (8 pts)6. *Jared has 8 acres to mow and can mow $1\frac{1}{4}$ acres per day.* Show your work to answer these questions.

How many days will he need to finish the job?

After mowing for five days, how many more acres does he need to mow?

(10 pts)7. At Riverdale Middle School, $\frac{1}{6}$ of the students are in the band. Two out of every three students in the band are girls. The strip diagram shown represents all students in the school. Divide and label the rectangle according to the information given.



- The number of boys in the band is _____ times the number of girls in the band.
- What fraction of the students who play in the band are boys? _____
- What fraction of the students at Riverdale are boys who play in the band? _____
- The number of girls in the band is _____ times the number of students in the school.

(8 pts)8. A child says that the two situations below would give the same “chocolatey-ness,” since “Each way has one more spoonful of chocolate sprinkles.” Do they?

- 3 spoonfuls of chocolate sprinkles on 2 scoops of vanilla ice cream
- 4 spoonfuls of chocolate sprinkles on 3 scoops of vanilla ice cream

Amount of chocolate sprinkles per scoop of ice cream in I: _____

Amount of chocolate sprinkles per scoop of ice cream in II: _____

Which situation is more “chocolatey?” Circle your answer: I II

If you had 17 scoops of ice cream and you wanted to match the “chocolatey-ness” of situation II, show the use of the unit ratio to determine the number of spoonfuls of sprinkles you would need.

- (8 pts)9. Travis' rent is now \$864. That is 20% more than his rent last year. What was his rent last year?
Make a strip drawing to illustrate this problem. Include labels and numbers as appropriate.

Set up a proportion that could be used to solve this problem.

Answer: _____

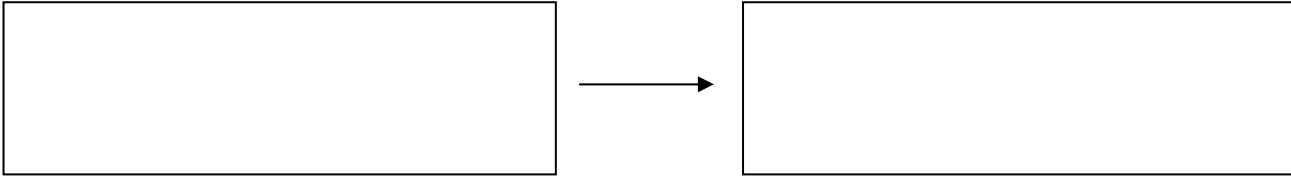
- (9 pts)10. Match the operations and the names of the properties by placing the correct number to the left of the letters A-E. Not all properties on the right will necessarily be used; some may be used more than once.

- | | |
|---|---|
| _____A) $^{-}3 \times (2 + 5) = ^{-}3 \times (5 + 2)$ | 1. Associative property of multiplication |
| _____B) $3 \times (2 + 5) = (3 \times 2) + (3 \times 5)$ | 2. Additive identity property |
| _____C) $4 + (^{-}3 + ^{-}1) + 2 = (4 + ^{-}3) + (^{-}1 + 2)$ | 3. Multiplicative inverse property |
| _____D) $5 + (8 + 0) = 5 + 8$ | 4. Additive inverse property |
| _____E) $^{-}4 \times 1 = ^{-}4$ | 5. Commutative property of addition |
| _____F) $6 + (4 + ^{-}4) = 6 + 0$ | 6. Associative property of addition |
| _____G) $\frac{2}{3} \times \frac{3}{2} = 1$ | 7. Distributive property of \times over $+$ |
| _____H) $3 \times (5 \times 0) = (5 \times 0) \times 3$ | 8. Multiplicative identity property |
| _____I) $3 + (2 + ^{-}5) = (3 + 2) + ^{-}5$ | 9. Commutative property of multiplication |

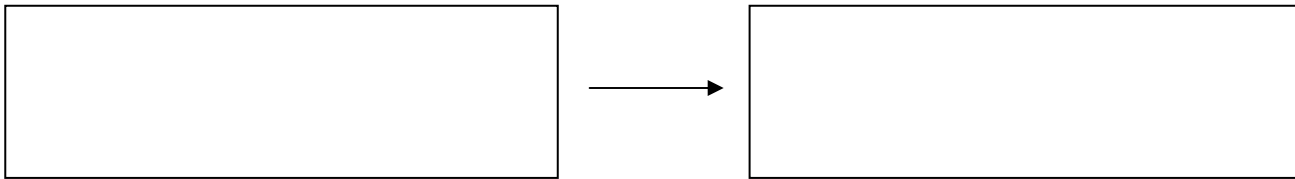
(8 pts)11. Show how to use white (positive) and dark (negative) chips to model the following:

A. $4 + (-6)$

Answer



B. $5 - (-2)$



(6 pts)12. Using signed numbers, write an equation that describes each of these story problems.

Since the recession began, Mike's sandwich shop has been losing 20 customers per month.

A. If this trend continues, how will his number of customers in 5 months compare to his present number of customers?

B. Four months ago, how did his number of customers compare to this month?

(6 pts)13. Place these numbers correctly on the number line given.

$$\frac{121}{240}, -\frac{60}{79}, -0.25, \frac{205}{300}, -\frac{9}{32}, \frac{120}{241}$$

