Standard 1 (Number Sense)

Sandy's New Car

Sandy bought a new car. Since then, she has taken her car to Tyler's Garage to have the oil changed every 5,000 miles. She also gets her tires rotated every 10,000 miles.

A) Sandy's car now has 115,000 miles on the odometer. How many times has the oil been changed? Show your work.

B) Has Sandy's car ever needed the oil changed and the tires rotated at the same time? If so, how many times?

C) It is a 5-mile round trip from Sandy's house to Tyler's Garage. Assuming Sandy drives from home to Tyler's Garage using the same route for service, how many miles has Sandy driven back and forth to Tyler's Garage for these service jobs? Show your work to explain your answer.

Larry's New Car

Larry bought a new car. Since then, he has taken his car to Tyler's Garage to have the oil changed every 3,000 miles. He also gets his tires rotated every 9,000 miles.

A) Larry's car now has 135,000 miles on the odometer. How many times has the oil been changed? Show your work.

B) Has Larry's car ever needed the oil changed and the tires rotated at the same time? If so, how many times?

C) It is a 10-mile round trip from Larry's house to Tyler's Garage. Assuming Larry drives from home to Tyler's Garage using the same route for service, how many miles has Larry driven back and forth to Tyler's Garage for these service jobs? Show your work to explain your answer

Sandy's New Car

Oil change every 5,000 m. Tires every 10,000 miles

A) $115,000 \div 5,000 = 23$ times

B) Yes, since the oil is changed every 5,000 miles and the tires are rotated every 10,000 miles, the tires are rotated every other oil change because $10,000 \div 2 = 5,000$.
They have both occurred at the same time 11 times so far because $115,000 \div 10,000 = 11.5$

C) Since the tire rotation occurs with an oil change, Sandy has made 23 trips to Tyler's Garage because $115,000 \div 5,000 = 23$
Thus, Sandy has driven $23 \times 5 = 115$ miles back and forth to Tyler's garage because it is 5 miles round trip 23 times.

Larry's New Car

Oil change every 3,000 miles Tires every 9,000 miles

A) 135,000 ÷ 3,000 = 45 times

B) Yes, his car needs his tires rotated every third oil change because 9,000 ÷ 3,000 = 3
135,000 ÷ 9,000 = 15 times

C) Larry has driven a total of 450 miles back and forth to Tyler's Garage because all the tire rotations occur every 3rd oil change, thus he has gone 45 times to Tyler's Garage which is a 10 mile round trip so 45 × 10 = 450.

Standard 1

Baking Cookies #1

Charlie is making cookies for his math party. He decided to make Chocolate Chip Cookies from scratch. The following is a list of ingredients that he needs. This recipe will yield 1 dozen cookies.

2 large eggs	1 teaspoon of vanilla
3 cups of flour	1 teaspoon of salt
1 cup of sugar	2/3 cup of shortening
12 oz of choc chips	2/3 cups of butter

A) Charlie wants to make 36 cookies. How many cups of flour will he need? Show your work.

B) Suppose he decides to make 48 cookies. If he has 3 pounds of sugar and each pound of sugar is approximately 2 (1/4) cups, does he have enough sugar for 48 cookies? Explain your answer

C) Charlie is trying to decide if buying cookies of the same type from a grocery store is more expensive than making them from scratch. He calculated the total cost of making 48 cookies to be $0.20 per cookie. He can buy a package of 1 dozen cookies from a grocery store for $2.89. Based on this information, is it cheaper to make them or buy them? Show your work and explain your answer.

Cookies #1

1 dozen cookies = 12 cookies

2 eggs	12 oz choc. chips	2/3 c shortening
3 c flour	1 t vanilla	2/3 c butter
1 c sugar	1 t salt	

A) $36 \div 12 = 3$
$3c \times 3 = 9c$ of flour

B) $48 \div 12 = 4$
$1c \times 4 = 4c$ of sugar needed
$3 lbs \times 2.25c = 6.75c$ of sugar

Yes, he needs 4c of sugar and has 6.75c of sugar which is more than he needs.

C) $48 \times \$0.20 = \$9.60$
$48 \div 12 = 4$
$4 \times \$2.89 = \$11.56$

No, it is not cheaper to buy them. TO buy 4 dozen (48 cookies) it would cost $11.56, when you can make 4 dozen (48 cookies) for $9.60.

Baking Cookies #2

Charlie is making cookies for his math party. He decided to make Chocolate Chip Cookies from scratch. The following is a list of ingredients that he needs. This recipe will yield 1 dozen cookies.

2 large eggs	1 teaspoon of vanilla
3 cups of flour	1 teaspoon of salt
1 cup of sugar	2/3 cup of shortening
12 oz of choc chips	2/3 cups of butter

A) Charlie wants to make 24 cookies. How many cups of flour will he need? Show your work.

B) Suppose he decides to make 36 cookies. If he has 3 pounds of sugar and each pound of sugar is approximately 2 (1/2) cups, does he have enough sugar for 36 cookies? Explain your answer

C) Charlie is trying to decide if buying cookies of the same type from a grocery store is more expensive than making them from scratch. He calculated the total cost of making 36 cookies to be $0.35 per cookie. He can buy a package of 1 dozen cookies from a grocery store for $2.99. Based on this information, is it cheaper to make them or buy them? Show your work and explain your answer.

Cookies 2

1 dozen = 12 cookies

2 eggs	12 oz choc. chips	2/3 c shortening
3 c of flour	1 t vanilla	2/3 c butter
1 c of sugar	1 t salt	

A) $24 \div 12 = 2$

$3c \times 2 = 6c$ of flour

B) $36 \div 12 = 3$

$1c \times 3 = 3c$ of sugar needed

$3 \times 2.5c = 7.5c$ of sugar

Yes, he needs 3c of sugar and has 7.5c of sugar which is more than he needs

C) $36 \times \$0.35 = \$12.60$

$36 \div 12 = 3$

$3 \times \$2.99 = \$8.97$

Yes, it is cheaper to buy them because it costs $8.97 to buy 3 dozen (36 cookies) and $12.60 to make 3 dozen (36 cookies) which is more than buying them.