Probe: Choosing Expressions to Represent Situations

Directions: Without doing the calculations, determine which numeric expression can be used to represent and solve the problem.

1) A pitcher had $3\frac{1}{2}$ cups of orange juice. Sue drank $\frac{1}{4}$ of the juice in the pitcher. How much juice did she drink?

Circle the expression.

a)
$$\frac{1}{4} + 3\frac{1}{2}$$
 b) $3\frac{1}{2} - \frac{1}{4}$ c) $\frac{1}{4} \times 3\frac{1}{2}$ d) $3\frac{1}{2} \div \frac{1}{4}$

b)
$$3\frac{1}{2} - \frac{1}{4}$$

c)
$$\frac{1}{4} \times 3^{\frac{1}{2}}$$

d)
$$3\frac{1}{2} \div \frac{1}{4}$$

Explain your thinking.

2) Jack has a wooden board that is $3\frac{1}{2}$ feet long. How many $\frac{1}{4}$ -foot long pieces can he cut from his board?

Circle the expression.

a)
$$3\frac{1}{2} + \frac{1}{4}$$
 b) $3\frac{1}{2} - \frac{1}{4}$ c) $3\frac{1}{2} \times \frac{1}{4}$ d) $3\frac{1}{2} \div \frac{1}{4}$

b)
$$3\frac{1}{2} - \frac{1}{4}$$

c)
$$3\frac{1}{2} \times \frac{1}{4}$$

d)
$$3\frac{1}{2} \div \frac{1}{4}$$

Explain your thinking.

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3) Pete is running in a $3\frac{1}{2}$ mile race. If he has run $\frac{1}{4}$ of a mile so far, how many more miles does he need to run in order to finish the race?

Circle the expression.

a)
$$3\frac{1}{2} + \frac{1}{4}$$
 b) $3\frac{1}{2} - \frac{1}{4}$ c) $3\frac{1}{2} \times \frac{1}{4}$ d) $3\frac{1}{2} \div \frac{1}{4}$

b)
$$3\frac{1}{2} - \frac{1}{4}$$

c)
$$3\frac{1}{2} \times \frac{1}{4}$$

d)
$$3\frac{1}{2} \div \frac{1}{4}$$

Explain your thinking.

4) How many $\frac{1}{4}$ -pound bags can be made from a $3\frac{1}{2}$ pound bag of peanuts? Circle the expression.

a)
$$3\frac{1}{2} + \frac{1}{4}$$

b)
$$3\frac{1}{2} - \frac{1}{4}$$

c)
$$3\frac{1}{2} \times \frac{1}{4}$$

a)
$$3\frac{1}{2} + \frac{1}{4}$$
 b) $3\frac{1}{2} - \frac{1}{4}$ c) $3\frac{1}{2} \times \frac{1}{4}$ d) $3\frac{1}{2} \div \frac{1}{4}$

Explain your thinking.