

7.EE Expressions and Equations

7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

1. Simplify

$$2\frac{2}{5}x + \frac{1}{10}x + \frac{1}{2}x$$

2. Simplify

$$7\frac{1}{6}x - 3x - \frac{1}{3}x$$

3. Simplify

$$\frac{1}{4}(2x - 12)$$

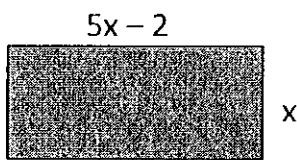
4. Simplify

$$\frac{\frac{1}{2}}{8x}$$

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7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

1. Which represents the perimeter of the rectangle?



- a. $5x - 2 + x$
- b. $2(5x - 2) + 2x$
- c. $(5x - 2)(x)$
- d. $5x - 2 + x + 5x - 2$

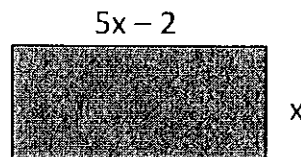
2. Mary spends \$23 at a restaurant and wants to add a 15% tip. Which represents the total cost of the meal?

- a. $23(1.15)$
- b. $23(15) + 23$
- c. $23 + (1.5)23$
- d. $23 + .15$

3. A store is having a 25% off sale. If a shirt originally costs \$18, what will be the cost of the shirt after the discount.

- a. $18 - .25$
- b. $18(.25) + 18$
- c. $18(.75) - 18$
- d. $18(.75)$

4. Which represents the area of the rectangle?



- a. $x(5x + 2)$
- b. $2(5x - 2) + 2(x)$
- c. $(5x - 2)(x)$
- d. $5x - 2 + x + 5x - 2 + x$

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7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

1. Estimate 32% of 180.
2. Skateworld charges 7% tax. About how much will you spend in total if you purchase a skateboard for \$60.84.

Estimate 52% of 233

3. Fred hikes $4\frac{3}{8}$ miles on Sunday and $5\frac{9}{10}$ miles on Monday. About how many miles did he hike in total?
4. You want to place a picture that is $28\frac{1}{2}$ inches wide in the center of a wall that is 61 inches long. About how many inches will the edge of the picture be from the wall?

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7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

1. The perimeter of a rectangle is 64 feet. If the width is 4 feet, what is the length?
2. Candice works 40 hours per week. She receive a paycheck of \$960 every two weeks. How much she get paid per hour?
3. Larry need to buy 5 books at the same price. After he uses a \$30 gift card, he can spend no more that \$50. What is the maximum cost of each book that he can buy?
4. Lola want to purchase a pair of shoes for \$20. She also wants some socks that cost \$4 each. She only has \$35 to spend. How many pairs of socks can she buy along with the shoes?