Rewriting Expressions Worksheet

Grade 7 · Common Core 7.EE.A.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.

Practice

Builds the skill step by step.

1. Which expression is equivalent to a + 0.05a?

   A. $0.05a^2$

   B. 1.5a

   C. 0.5a

   D. 1.05a

2. A jacket costs p dollars and is on sale for 20% off. Write the sale price as a single term.

3. Write x + x + x + x as a single term.

4. Rewrite 6n + 9 as 3 times a sum.

5. A price p increases by 10%. Write the new price as a single term.

6. Which expression is equivalent to $n - 0.25n$?

   A. $0.25n$

   B. $0.75n$

   C. $n - 0.25$

   D. $1.25n$

7. Expand: $2(x + 2.5)$

8. Each of 4 friends pays $(t + 3)$ dollars for a ticket and a snack. Write the total cost without parentheses.

9. A square has sides of length $s + 2$. Write its perimeter without parentheses.

10. A store adds 8% sales tax to a price c. Which expression gives the total cost?

    A. $1.08c$

    B. $0.08c$

    C. $c + 8$

    D. $8c$

ALBERT

Name _____ Date _____

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On Level

Grade-level practice.

1. Write a + 0.15a as a single term. What percent change does it show?

2. Rewrite $\frac{1}{2}(10x - 4)$ with no parentheses.

3. A shirt costs s dollars and is marked up 40%. Which expression does NOT give the new price?

   A. s + 0.4s

   B. 1.4s

   C. 0.4s

   D. $\frac{7}{5}$s

4. A rectangle is 3 units longer than it is wide. Its width is w. Write its perimeter as a sum of the four sides and as a simplified expression.

5. A phone costs p dollars. It is discounted 30%, then $10 more is taken off. Write the final price as a simplified expression.

6. Rewrite $18y - 12$ as 6 times a difference.

7. Mia says $n + 0.5n$ means a number increased by 50%. Which single term is equivalent?

   A. $0.5n^2$

   B. $1.05n$

   C. $1.5n$

   D. $0.5n$

8. Three students split a pizza that costs p dollars and a $6 tip equally. Write each student's share in two equivalent forms.

9. A tank holds g gallons. Then 25% of the water is drained. Write the amount left as a single term.

10. A worker with salary s gets a 5% raise and then a $500 bonus. Write the total as a simplified expression.

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Challenge

Multi-step and word problems that stretch it.

1. A price p is increased by 20%, and then the new price is decreased by 20%. Write the final price as a single term.

2. A coat costs c dollars. Which pair of equivalent expressions both show a 25% discount?

   A. $c - 25$ and $0.75c$

   B. $0.25c$ and $c - 0.25c$

   C. $1.25c$ and $c + 0.25c$

   D. $c - 0.25c$ and $0.75c$

3. A garden is x feet long and 6 feet wide. A 2-foot strip is added to its length. Write the new area in two forms: as a product and expanded.

4. A number n is tripled, and then one third of the result is subtracted. Write the result as a single term.

5. Store A sells a game for g dollars with 15% off. Store B sells it for $9 off the price g. Write the Store A price minus the Store B price as a simplified expression.

6. A rectangle's width is w. Its length is 1 more than twice the width. Write its perimeter in simplest form.

7. Which expression is equivalent to $0.6x + 0.4x + 2(x - 1)$?

   A. $x - 2$

   B. $3x - 1$

   C. $3x - 2$

   D. $2.4x - 2$

8. Notebooks cost $2.75 each, plus 8% tax. Write the total cost of n notebooks as a single term.

9. Kai rewrote $4(x + 3) - x$ as $3x + 3$. Write the correct expression and describe his mistake.

10. An investment of d dollars grows 10% in the first year and 10% again in the second year. Write its value after two years as a single term.