NAME   DATE   PERIOD

Unit 6, Lesson 19: Expanding and Factoring

1. a. Expand to write an equivalent expression: $\frac{-1}{4}(-8x + 12y)$

   b. Factor to write an equivalent expression: $36a - 16$

2. Lin missed math class on the day they worked on expanding and factoring. Kiran is helping Lin catch up.

   a. Lin understands that expanding is using the distributive property, but she doesn't understand what factoring is or why it works. How can Kiran explain factoring to Lin?

   b. Lin asks Kiran how the diagrams with boxes help with factoring. What should Kiran tell Lin about the boxes?

   c. Lin asks Kiran to help her factor the expression $-4xy - 12xz + 20xw$. How can Kiran use this example to Lin understand factoring?

3. Complete the equation with numbers that makes the expression on the right side of the equal sign equivalent to the expression on the left side.

$$75a + 25b = \underline{\quad}(\underline{\quad}a + b)$$

4. Elena makes her favorite shade of purple paint by mixing 3 cups of blue paint, $1\frac{1}{2}$ cups of red paint,

---

NAME   DATE   PERIOD

and $\frac{1}{2}$ of a cup of white paint. Elena has $\frac{2}{3}$ of a cup of white paint.

    a. Assuming she has enough red paint and blue paint, how much purple paint can Elena make?

    b. How much blue paint and red paint will Elena need to use with the $\frac{2}{3}$ of a cup of white paint?

(from Unit 4, Lesson 3)

5. Solve each equation.

    a. $\frac{-1}{8}d - 4 = \frac{-3}{8}$

    b. $\frac{-1}{4}m + 5 = 16$

    c. $10b + -45 = -43$

    d. $-8(y - 1.25) = 4$

    e. $3.2(s + 10) = 32$

(from Unit 6, Lesson 9)

6. Select **all** the inequalities that have the same solutions as $-4x < 20$.

    A. $-x < 5$
    B. $4x > -20$
    C. $4x < -20$
    D. $x < -5$

E. $x > 5$

F. $x > -5$

(from Unit 6, Lesson 13)