Math 7A Chapter 7 Test
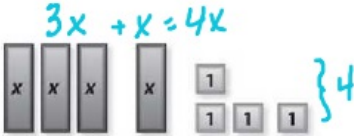
1. Which expression is equivalent to $6(4 + 9)$?

   A. $6(36)$ **C.** $6(4) + 6(9)$

   B. $(6 + 4) \cdot (6 + 9)$ **D.** $6(4) \cdot 6(9)$

★ C

2. Which expression has the same value as $-4(5 - x)$? $-4(5 + -x) = -4 \cdot 5 + -4 \cdot -x$

   A. $-4 \cdot 5 + 4 \cdot x$ $-20 + 4x$ **C.** $(-4 + 5) \cdot (-4 + (-x))$ $-20 + 4x$

   B. $-4 \cdot 5 - 4 \cdot x$ **D.** $(4 - 5) \cdot (-4 - x)$

     $-20 - 4x$

A

3. Admission to an art museum is \$12 for students. Which expression can be used to mentally compute the total cost of admission tickets for 60 students?

   A. $60(10 + 2)$ **C.** $6(12 + 10)$

   B. $12 \cdot 2 + 60 \cdot 10$ **D.** $10(30 + 30)$

A

4. Which expression has a coefficient of 2?

   A. $-2x$ **B.** $\frac{1}{2} + 4x$ **C.** $6 + 2x$ **D.** 2

    -2 4 2

C

5. The total cost for renting a jet ski is represented as $75 + 1.50m$. What is the constant in the expression $75 + 1.50m$?

   A. 75 **B.** 1.50 **C.** m **D.** $1.50m$

A

6. What is the sum of $(5x + 6) + (-x + 8)$? $5x + -x = 4x$

   A. $4x + 14$ **C** $6x + 14$ $6 + 8 = 14$

   B. $11x - 7x$ **D.** $4x - 2$

A

7. Which expression corresponds to the model shown?

    $3x + x = 4x$

    [model: four x tiles, four 1 tiles] $\}4$

   A. $4x + 4$ **C.** $8x$

   B. $4x + 3$ **D.** $16x$

A

8. Which expression represents the difference of $(7y + 4) - (y - 2)$? $(y + -2)$

   A. $11y + 6$ **C.** $11y + 2y$ $7y - y = 6y$

   B. $6y + 6$ **D.** $6y - 2$ $4 - -2 = 6$

B

9. What linear expression would you subtract from $(8p - 10)$ to have a difference of p?

$(8p-10)-(\quad) = p$

$8p - 7p = p$

$-10 - ^-10 = 0$

$7p + ^-10$

$7p - 10$

10. Chang and Cal both collect pearls. Chang has 3 more pearls in her collection than Cal. Write an expression to represent the total number of pearls in both collections.

$CAL = X$

$CHANG = X + 3$

$2p + 3$

$2x + 3$

11. The perimeter of a triangular-shaped amphitheater is $(100x + 90)$ yards. The lengths of two sides of the amphitheater are $(45x - 10)$ yards and $(25x + 50)$ yards. What is the length of the remaining side?

$(45x - 10) + (25x + 50) + (30x + 50) = (100x + 90)$

$\begin{array}{cc} +45 & -10 \\ +25 & +50 \\ +30 & +50 \\ \hline +100 & 90 \end{array}$

$30x + 50$

12. Which pair of monomials has a GCF of $9x$?

A. $45xy$ and $18x$ C. $19x$ and $9x$

B. $36x$ and $9y$ D. $9x$ and x

$\dfrac{45xy}{9x} = 5y$ $\dfrac{18x}{9x} = 2$

A

13. Factor $35x + 7$.

A. $7(5x + 1)$ C. $7(35x)$

B. $7(1 + 35x)$ D. $7(x + 5x)$

$\dfrac{35x}{7} = 5x$ $\dfrac{7}{7} = 1$

$7(5x + 1)$

A

14. Which of the following expressions cannot be factored?

A. $\frac{1}{2}xy + x$ $x(\frac{1}{2}y + 1)$ C. $\frac{x}{4} + \frac{y}{2}$ $\frac{1}{4}(x + 2y)$

B. $4x + y$

D. $4xy + 4$ $4(xy + 1)$

B

15. The area of a rectangular hot tub cover is $(8x - 2)$ square units. What are possible dimensions of the hot tub cover?

$4x - 1$ $8x - 2$ $16x - 4$

$2 \boxed{}$ $1 \boxed{}$ $\frac{1}{2} \boxed{}$

ANSWERS VARY 2 by $4x + ^-1$

16. A rectangular playground has an area of $25x$ square meters. A rectangular swimming pool, adjacent to the playground, has an area of 55 square meters. Write an expression in factored form to represent the total area of the playground and the pool.

$5 \quad \boxed{25x \mid 55}$

$5x \quad + \quad 11$

$(5x + 11)5$

$5(5x + 11)$

17. The perimeter of a square-shaped garden is $(16x + 20)$ feet. Write an expression to represent the length of one side of the garden.

$\dfrac{16x + 20}{4}$

$4x + 5$ $\boxed{} \; 4x + 5$

$4x + 5$

Bonus: The acute angle measures of a triangle are $(x + 25)°$, $(x - 5)°$, and $(2x - 40)°$. What are the angle measures of the triangle?

A. $45°, 60°, 75°$ C. $5°, 25°, 40°$

B. $45°, 45°, 90°$ D. $30°, 75°, 75°$

A

$(x + 25) + (x - 5) + (2x - 40) = 180$

$4x + ^-20 = 180 \qquad 4x = 200 \qquad x = 50$