

Test, Form 3A

1. Evaluate the expression $-\frac{4}{9}(27 - 18)$. 1. -4

2. Evaluate the expression $-8(-16 + x)$ when $x = 0.5$. 2. 124

3. Elijah charges \$12 per hour to babysit. If Elijah is hired for more than five hours, he will reduce the cost by \$2.50 per hour. Write an expression to show the total cost of hiring Elijah for h hours if he babysits for more than five hours. 3. (12 - 2.5)h

4. Rewrite the following expression using the Distributive Property.

$$13 \cdot (-16) + 14 \cdot 16$$
Sample answer:
4. 16(14 - 13)

5. The width of a rectangle is $4x$ units and its length is $(6x - 2)$ units. What happens to the area of the rectangle if the length is doubled? 5. It doubles.

6. What linear expression would you subtract from $(8p - 10)$ to have a difference of p ? 6. (7p - 10)

7. 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. 7. (2c + 3) pearls

8. 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? 8. (30x + 50) yd

9. What is the GCF of $63gh$ and $81ghj$? 9. 9gh

10. Niles factored $10yz + 25xz$ as $5x(2z + 5z)$. Find his mistake and correct it. Sample answer:
10. He factored out 5x when he should have factored out 5z; 5z(2y + 5x)

Test, Form 3A (continued)

Use the following information for Exercises 11–13.

An animal hospital provides aid to sick and injured sea turtles. The cost of visiting the hospital for x number of visitors is shown in the table.

Admission Cost	
Admission Ticket	Cost (\$)
weekday	$7.50x + 5$
weekend	$15x + 10$

11. The constants in each expression represent the amount of money that is donated directly to a specific turtle each month. What amount for each ticket is donated directly to a turtle?

11. **\$5 on weekdays and \$10 on weekends**

12. Write an expression in factored form that is equivalent to the sum of weekday and weekend tickets.

12. **$5(4.5x + 3)$**

13. Write an expression to show how much greater the cost is for a weekend ticket than a weekday ticket.

13. **$7.5x + 5$**

14. The side lengths of a triangle are $(5x + 1)$, $(6x - 10)$, and $(6x + 2)$. Write an expression in simplest form for the perimeter of the triangle.

14. **$17x - 7$**

15. Write an expression in factored form that is equivalent to the expression $\frac{3}{4}x + 24$.

15. **$\frac{3}{4}(x + 32)$**

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.

$25x$	55
-------	----

16. **$5(5x + 11)$ square meters**

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.

17. **$(4x + 5)$ feet**