

2016 Mathematics Standards of Learning  
Algebra Readiness Formative Assessment

1A.1ab

1. Evaluate the following expression when  $x = 27$ .

$$-|-9 + \sqrt[3]{x}|$$

2. Sierra is going shopping to buy art supplies. She plans to buy 2 paint brushes at  $p$  dollars each, 6 bottles of paint at  $b$  dollars each, and 3 canvases at  $c$  dollars each. Write two different algebraic expressions to represent the total cost in dollars of these items Sierra will buy.
3. Which of the following best represents the algebraic expression  $2x + 2(x + 4)$ ?
- A. the number of cups of flour needed to make 2 cakes that each require 4 cups of flour
  - B. the area of a dog pen that has a length 2 times the width plus 4
  - C. the amount of fencing needed to surround a rectangular-shaped animal pen that has a length 4 feet longer than its width
  - D. the number of bulbs you can plant in a square garden where bulbs must be planted 4 inches apart
4. A cell phone company offers service for a flat rate of \$20 per month, plus 3 cents a minute. Which expression could represent the monthly cost of this cell phone service?
- A.  $3 + 20m$
  - B.  $20 + 3m$
  - C.  $0.03 + 20m$
  - D.  $20 + 0.03m$
5. What is the value of  $\frac{2^a + \sqrt[3]{b} + c^2}{|d + 4|}$  if  $a = 4$ ,  $b = 8$ ,  $c = -6$ , and  $d = -10$ .
- A. 9
  - B. 3
  - C. -3
  - D. -9
6. Translate the following verbal expression in an algebraic expression:  
one-half the difference of the cube of a number,  $x$ , and three  
Answer: \_\_\_\_\_