2.8 Review
Give these review problems a try.

1 Which of the following is an expression for the absolute value of the cube root of the sum of \(x\) and \(x^2\)?
(a) \(|(x + x^2)^{\frac{1}{3}}|\)
(b) \(\sqrt[3]{x} + x^2\)
(c) \(\sqrt[3]{x} + x^2\)
(d) \(\sqrt[3]{x + x^2}\)

2 What is the result when the expression \(3| x - 4 | + 2x^2\) is evaluated for \(x = 3\)?
(a) 9
(b) 27
(c) 45
(d) 15

3 Deanna and Jadrian decide to open a pizza shop. Each day, they spend $1100 on ingredients. They charge $15 for each pizza they sell. If they sell \(P\) pizzas tomorrow, how much money (in dollars) will they make?
(a) \(1100 - P\)
(b) \(1100 \cdot P + 15\)
(c) \(15P\)
(d) \(15P - 1100\)

4 A marathon is 26.2 miles long. A group of \(x\) friends decide that, instead of running the whole marathon, each of them will run an equal part of it. Which of the following is a correct expression for the distance run by each friend??
(a) \(\frac{26.2}{x}\)
(b) 26.2
(c) \(x\)
(d) \(26.2x\)

5 What is the value of \(73.2^{2^{3-2^{21}}} - 24 \cdot \frac{12}{x^2+1}\), rounded to two decimal places?
(a) \(-39.97\)
(b) 4.47
(c) \(-14.42\)
(d) 52.85

6 Which of the following expressions has the same value as \(1+2+3+4+5\)?
(a) \(\frac{(5+1)(5)}{2}\)
(b) \(6 + 5 + 4 + 3 + 2\)
(c) \(\frac{5^2}{2}\)
(d) 18

7 (a) 31.556736 \cdot 10^6 \text{ seconds}
(b) 3.1556736 \cdot 10^7 \text{ seconds}
(c) 5.259256 \cdot 10^5 \text{ seconds}
(d) 1.314864 \cdot 10^6 \text{ seconds}
8 You are moving to a new house. You want to put all of your belongings into storage. You have 10 boxes whose sides are each 45 centimeters long. You have 5 boxes whose sides are each 50 centimeters long. Which of the following expressions tells you how much storage space you have, in cubic centimeters? (Remember that the volume of a cube is the length of one of its sides cubed.)

(a) \(10 \cdot 45 \cdot 3 + 5 \cdot 50 \cdot 3 \, \text{cc}\)
(b) \(10 \cdot 45^2 + 5 \cdot 50^2 \, \text{cc}\)
(c) \(10 + 45^3 \cdot 5 + 50^3 \, \text{cc}\)
(d) \(10 \cdot 45^3 + 5 \cdot 50^3 \, \text{cc}\)