ASSESSMENT TEST -- READINESS FOR MATH D
Topics and Sample Questions

1. **Arithmetic**

   A. $\dfrac{1}{5} + \dfrac{1}{8} =$

   a. $\dfrac{1}{40}$ b. $\dfrac{2}{13}$ c. $\dfrac{5}{8}$ d. $\dfrac{13}{40}$ e. $\dfrac{1}{13}$

   B. $16.308 \div 0.36 =$

   a. 0.453 b. 45.3 c. 46.3 d. 0.463 e. 453

2. **Linear Functions, Equations & Inequalities**

   A. If $2(3x - 1) = 3(x + 5) + 1$, then $x =$

   a. 3 b. $\dfrac{7}{3}$ c. $\dfrac{1}{6}$ d. 6 e. $\dfrac{3}{7}$

   B. The inequality $7 - 2x > 1$ is equivalent to

   a. $x < 3$ b. $x > 3$ c. $x < -4$ d. $x > -4$ e. $x < -8$

3. **Polynomial Functions & Equations, (Primarily Quadratic)**

   A. In the equation $2x^2 + bx - 6 = 0$; if $x = 3$, then "b" $=$

   a. -8 b. -4 c. 4 d. 8 e. 12

   B. One of the solutions of the equation $3x^2 - 2x - 8 = 0$ is

   a. -2 b. $-\dfrac{4}{3}$ c. $-\dfrac{3}{4}$ d. $\dfrac{3}{4}$ e. $\dfrac{4}{3}$

4. **Graphing**

   The equation of the graph to the right is
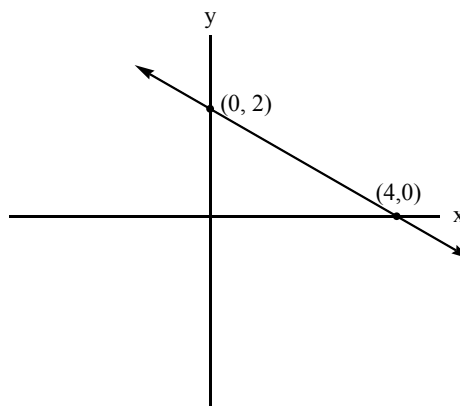
   a. $x - 2y + 4 = 0$
   b. $2x - y + 2 = 0$
   c. $x + 2y - 4 = 0$
   d. $2x + y - 2 = 0$
   e. $x + y + 2 = 0$

5. **Rational Expressions**

$$\frac{2}{2x-1} - \frac{1}{2x+1} =$$

a. $\dfrac{1}{2x-1}$ b. $\dfrac{2x}{4x^2-1}$ c. $\dfrac{2x+2}{4x^2-1}$ d. $\dfrac{2}{4x-1}$ e. $\dfrac{2x+3}{4x^2-1}$

6. Laws of Exponents & Square Roots

Which of the following is NOT true for all values of x and y for which the expressions are defined?

a. $3x^4 \times x^5 = 3x^9$ b. $(2xy)^2 = 4x^2y^2$ c. $(x^3)^2 = x^6$

d. $(3+x)^2 = 9+x^2$ e. $\sqrt{8x^8} = 2x^4\sqrt{2}$

7. Geometry

In the figure shown to the right. If "O" is the center of the circle, then x is:
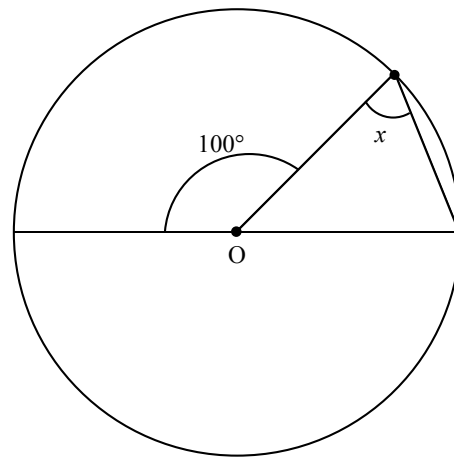
a. 25°

b. 45°

c. 50°

d. 60°

e. 75°

8. Word Problems

A. If the width of a rectangle is 4 inches less than its length and the area of the rectangle is 96 square inches, what is the width of the rectangle in inches?

a. 6   b. 8   c. 9   d. 10   e. 12

B. Two cars leave the same place and drive in opposite directions. One car travels at an average speed of "a" miles per hour, and the other at "b" miles per hour. After both cars are driven for "h" hours, the distance between them may be represented by:

a. $a-b$ b. $a+b$ c. $(a+b)h$ d. $(a-b)h$ e. $\dfrac{a+b}{h}$

ANSWERS:

1.A.d, B. b; 2.A. d, B. a; 3.A. b, B. b; 4. c; 5. e; 6. d; 7. c; 8.A. b, B. c.