**LEVEL II**
**ELEMENTARY ALGEBRA TEST**
**TYPICAL QUESTIONS FROM COMPETENCY AREAS**

**Arithmetic**

$(0.12)^2 =$

(A) 0.00144 (B) 0.0144 (C) 0.144 (D) 0.24 (E) 1.44

**Polynomials**

One of the factors of $x^2 - x - 6$ is:

(A) x + 3 (B) $x + 2$ (C) $x - 1$ (D) $x - 2$ (E) x – 6

**Linear Equations and Inequalities**

If 6x – 3 = 8x – 9, then x =

(A) $-6$ (B) –3 (C) 3 (D) $-\frac{6}{7}$ (E) $\frac{6}{7}$

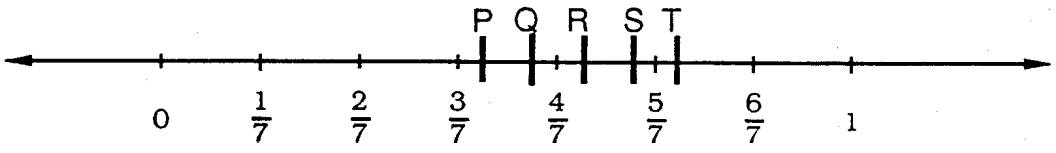
**Quadratic Equations**

What are the possible values of x such that $3x^2 - 2x = 0$?

(A) $-\frac{2}{3}$ only (B) 0 only (C) $\frac{2}{3}$ only (D) 0 and $\frac{2}{3}$ (E) $-\frac{2}{3}$ and $\frac{2}{3}$

**Graphing**

On the number line below, which letter best locates $\frac{5}{9}$




(A) P (B) Q (C) R (D) S (E) T

**Rational Expressions**

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

(A) $\frac{1}{w+2}$ (B) $\frac{1}{w^2-1}$ (C) $\frac{w-3}{w^2-1}$ (D) $\frac{w+3}{w^2-1}$ (E) $\frac{3w-1}{w^2-1}$

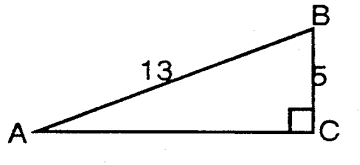
**Exponents and Square Root**

If x>0, then $\sqrt{64x^{16}} =$

(A) $8x^4$ (B) $8x^8$ (C) $16x^4$ (D) $32x^4$ (E) $32x^8$

**Geometry and Measurement**

In the right triangle shown below, what is the length of AC?




(A) 8 (B) 12 (C) 18 (D) $\sqrt{18}$ (E) $\sqrt{194}$

**Word Problems**

If x is to 5 as y is to 8, what is the value of x when y = 2?

(A) $\frac{5}{16}$ (B) $\frac{4}{5}$ (C) $\frac{5}{4}$ (D) $\frac{16}{5}$ (E) 5

Answer key: (1) B (2)B (3)C (4) D (5) B (6) C (7) B (8) B (9) C