LEVEL 2 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) $\frac{6}{7}$

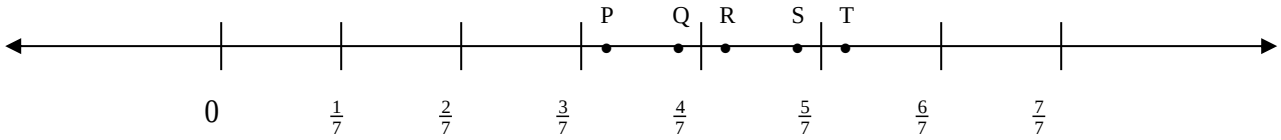
Quadratic Equations

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) $32x^8$

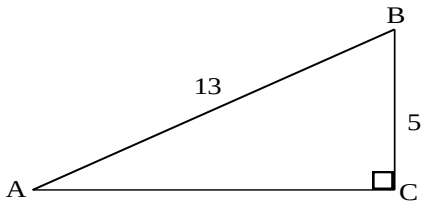
Geometry and Measurement

In the right triangle shown to the right, 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

Answers: 1. B 2. B 3. C 4. D 5. B 6. C 7. B 8. B 9. C