

QUIZ # 3 (B) / ~~D~~

Please show your work, no grade is given for a choice without the written solution.

1) The sum of the solutions of the equation $\left| \frac{3x}{2} - \frac{2}{3} \right| = 2$ is

- A) $\frac{10}{9}$ B) $\frac{8}{9}$ C) $\frac{2}{9}$ D) -1 E) $\frac{4}{9}$

$$\frac{3x}{2} - \frac{2}{3} = 2 \quad \text{or} \quad \frac{3x}{2} - \frac{2}{3} = -2$$

$$\times 6 \quad 9x - 4 = 12 \quad \left| \quad 9x - 4 = -12 \right.$$

$$9x = 16 \quad \left. \begin{array}{l} 9x = -8 \\ x_2 = -\frac{8}{9} \end{array} \right| \quad x_1 + x_2 = \frac{8}{9}$$

$$x = \frac{16}{9}$$

2) The solution for r of the equation $S = \frac{a-rl}{1+r}$ is

- A) $\frac{a}{l}$
 B) $\frac{a-S}{l+S}$
 C) $\frac{a+S+Sr}{l}$
 D) $\frac{rl+a-S}{S}$
 E) $\frac{a-1}{l+1}$

$$S(1+r) = a - rl$$

$$S + Sr + rl = a$$

$$r(S+l) = a - S$$

$$r = \frac{a-S}{S+l}$$

3) The perimeter of a rectangular garden is 162 meters. The length is 46 meters more than twice the width, then, the length is

- A) 44 meters. B) 32 meters. C) ~~60~~ meters. D) 25 E) 48 meters

$$2l + 2w = 162$$

$$l + w = 81$$

$$l = 46 + 2w$$

$$46 + 3w = 81$$

$$3w = 81 - 46 = 35$$

$$w = 7$$

$$l = 46 + 14 = 60$$

4) If we complete the square in $2x^2 + 12x = -8$ we get $(x+m)^2 = l$, then $m+l$ is equal to

- A) 3 B) 5 C) 2 D) 1 E) 8

$$x^2 + 6x = -4$$

$$x^2 + 6x + 9 = -4 + 9$$

$$(x+3)^2 = 5$$

$$m + l = 8$$