

S.M.ART School Homework for MCB4 due 01-25-2023

B1 If $A - Q = 4*B$, and $A + B = -3*Q$, what is the ratio of A to B ?

B2 Find ratio of X to Y, if
 $X + C = 5*Y$ AND $X - C = -6*Y$

Solve the following quadratic equations, using quadratic formula

E1 $6 * (2*x^2 + (4/3)*x) = 3*(3*x^2 - 1)$

E2 $(n^2 + 1) / n - (n - 2) / (2*n) = 1 / (3*n)$

Simplify

S1 $x^2 / (x^2 - 1) - x / (x + 1)$

S2 $x / a - ((x^2 - a^2) / a^2) * a / (x + a)$

S3 (Symbol “:”, means “divide”)

$$\left(m + n - \frac{4mn}{m+n} \right) : \left(\frac{m}{m+n} - \frac{n}{n-m} - \frac{2mn}{m^2 - n^2} \right)$$

Simplify

R1

$$\sqrt{m^2 - 2m + 1}, \quad \text{if } m > 1$$

R2

$$\sqrt{9m^2 - 6m + 1}, \quad \text{if } m < 1/3$$

R3

$$\sqrt{y^2 - 10y + 25} + \sqrt{y^2 - 14y + 49}, \text{ when } y < 5$$

R4

$$\sqrt{y^2 - 10y + 25} + \sqrt{y^2 - 14y + 49}, \text{ when } 5 \leq y < 7$$

Compute without calculator

R5

Coma “,” here means decimal point (European notation)

$$\sqrt{169 \cdot 0,36}$$

R6

$$\sqrt{16 \cdot \frac{4}{9} \cdot 0,25}$$

R7

$$\sqrt{1,44 \cdot 0,04 \cdot 0,0001}$$

Compute expression

R8 $1/x + 1/y$, where $x = 3 - \sqrt{8}$, $y = 3 + \sqrt{8}$

A1 Find an explicit formula for a sequence

A) $1/2, 4/5, 9/8, 16/11, \dots$

B) $2, 6, 18, 54, \dots$

A2 Find a recursive formula for a sequence

$$-2, 2, -2, 2, -2, 2, \dots$$