D S T Q Q S S

2 x 2

$3x + 1y = 1$
$2x - 3y = 8$

3	1	1
2	-3	8

1	3	1
-3	2	8

1	3	1
0	11	11

$y + 3x = 1$
$0y + 11x = 11$

$11x = 11$
$x = 11/11$
$x = 1$

$y + 3x = 1$
$y + 3 \cdot 1 = 1$

$y = 1 - 3$
$y = -2$

$S = \{1, -2\}$

3 x 3

$x + 2y - 2z = -5$
$2x - 3y + z = 9$
$3x - y + 3z = 8$

1	2	-2	-5
(2)	-3	1	9
(3)	(-1)	3	8

(-2)(-3)

$x + 2y - 2z = -5$
$-7y + 5z = 19$
$4z = 4 = 4/4 = 1$

1	2	-2	-5
0	-7	5	19
0	-7	9	23

(-1)

$-7y + 5z = 19$
$-7y + 5 \cdot 1 = 19$
$y = -2$

1	2	-2	-5
0	-7	5	19
0	0	4	4

$x + 2y - 2z = -5$
$x + 2 \cdot (-2) - 2 \cdot 1 = -5$
$x = 1$

$S = \{1, -2, 1\}$

1. $A = (8, 3)$ $B = (-4, 8)$

$$D_{AB} = \sqrt{(x_B - x_A)^2 + (y_B - y_A)^2}$$
$$D_{AB} = \sqrt{(-4-8)^2 + (8-3)^2}$$
$$D_{AB} = \sqrt{(-12)^2 + (5)^2}$$
$$D_{AB} = \sqrt{144 + 25}$$
$$D_{AB} = \sqrt{169}$$
$$D_{AB} = 13$$

2. Calcular AB, AC e BC

AB: $d^2 = (-2-1)^2 + (1-5)^2$
$d^2 = (-3)^2 + (-4)^2$
$d^2 = 9 + 16$
$d = \sqrt{25}$
$d = 5.$

AC: $d^2 = (4-1)^2 + (1-5)^2$
$d^2 = 3^2 + (-4)^2$
$d^2 = 9 + 16$
$d = \sqrt{25}$
$d = 5$

BC: $d^2 = (4-(-2))^2 + (1-1)^2$
$d^2 = (4+2)^2$
$d^2 = 6^2$
$d = \sqrt{36}$
$d = 6$

$P = 5 + 5 + 6$
$P = 16$

3. $M_x = \frac{-2+5}{2}$ $\quad M_y = \frac{1+3}{2}$

$M_x = 3/2$ $\quad M_y = 4/4$ $\quad M_y = 1$ $\quad M(3/2, 1)$

$$dAM^2 = (3/2 - 2)^2 + (2 - (-3))^2$$
$$dAM^2 = (-1/2)^2 + 5^2$$
$$dAM^2 = 1/4 + 25$$
$$dAM^2 = 101/4$$
$$dAM = \sqrt{101/2}$$

5. $M_{AB} = \left(\frac{3 + (-1)}{2}, \frac{5+3}{2}\right)$

$$M_{AB} = \left(\frac{2}{2}, \frac{8}{2}\right) = (1, 2)$$

$$M_{CD} = \left(\frac{0+1}{2}, \frac{-4+4}{2}\right)$$

$M_{CD} = \frac{1}{2}, \frac{0}{2}$ (D)