

طريقة التعويض

$$x - 3y = 6 \quad \text{--- ①}$$

$$2x + y = 5 \quad \text{--- ②}$$

$$\rightarrow x = 6 + 3y \quad \text{--- ①}$$

$$(6 + 3y) + y = 5$$

$$6 + 4y = 5$$

$$4y = 5 - 6$$

$$4y = -1 \Rightarrow y = -\frac{1}{4}$$

$$x + 3 = 6$$

$$x = 6 - 3 \Rightarrow x = 3$$

طريقة الحذف

$$x - 3y = 6 \quad \text{--- ①}$$

$$2x + y = 5 \quad \text{--- ②} \cdot 3$$

$$1x - 3y = 6 \quad \text{--- ①}$$

$$6x + 3y = 15 \quad \text{--- ②}$$

$$\begin{array}{r} 7x = 21 \\ \hline 7 \quad 7 \end{array}$$

$$x = 3 \quad \text{①} \quad \text{نعوض في ②}$$

$$3 - 3y = 6 \Rightarrow 3 - 6 = 3y$$

$$-3 = 3y \Rightarrow y = -1$$

$$\begin{array}{r} +2x \\ -2x \\ \hline 0 \end{array}$$

18 $\frac{1+5i}{1+i}x - \frac{7-i}{3+i}y = \frac{-3}{i}$ وزارتي 2021
المعدن الثاني

$$\left(\frac{1+5i}{1+i} \cdot \frac{1-i}{1-i}\right)x - \left(\frac{7-i}{3+i} \cdot \frac{3-i}{3-i}\right)y = \frac{-3}{i} \cdot \frac{-i}{-i}$$

$$\left(\frac{1-i+5i+5}{2}\right)x - \left(\frac{21-7i-3i+1}{10}\right)y = 3i$$

$$\left(\frac{6}{2} + \frac{4i}{2}\right)x - \left(\frac{20-10i}{10}\right)y = 3i$$

$$(3+2i)x - (2-i)y = 3i$$

$$3x + 2xi - 2y + yi = 0 + 3i$$

$$3x - 2y = 0 \quad \text{--- ①}$$

$$2x + y = 3 \Rightarrow y = 3 - 2x \quad \text{--- ②}$$

$$3x - 2(3 - 2x) = 0$$

$$3x - 6 + 4x = 0$$

$$\frac{7}{7}x = \frac{6}{7} \Rightarrow x = \frac{6}{7}$$

$$y = 3 - 2\left(\frac{6}{7}\right)$$

$$y = 3 - \frac{12}{7}$$

$$y = \frac{9}{7}$$

17 $\frac{2-i}{1+i}x + \frac{3-i}{2+i}y = \frac{1}{i}$ وزارتي 2005
المعدن الثاني

$$\left(\frac{2-i}{1+i} \cdot \frac{1-i}{1-i}\right)x + \left(\frac{3-i}{2+i} \cdot \frac{2-i}{2-i}\right)y = \frac{1}{i} \cdot \frac{-i}{-i}$$

$$\left(\frac{2-2i-i^2-1}{2}\right)x + \left(\frac{6-3i-2i-1}{5}\right)y = -i$$

$$\left(\frac{1}{2} - \frac{3i}{2}\right)x + \left(\frac{5}{5} - \frac{5i}{5}\right)y = -i$$

$$\left(\frac{1}{2} - \frac{3}{2}i\right)x + (1-i)y = -i$$

$$\frac{1}{2}x - \frac{3}{2}xi + y - yi = -i \cdot 2$$

$$x - 3xi + 2y - 2yi = 0 - 2i$$

$$x + 2y = 0 \Rightarrow x = -2y \quad \text{--- ①}$$

$$-3x - 2y = -2 \quad \text{--- ②}$$

$$-3(-2y) - 2y = -2$$

$$6y - 2y = -2$$

$$\frac{4y}{4} = \frac{-2}{4} \Rightarrow y = -\frac{1}{2}$$

$$x = -2\left(-\frac{1}{2}\right)$$

$$x = 1$$

س/ جد قيمة $x, y \in \mathbb{R}$: أخفاني

16 $x - 3y + (2x + y)i = 6 + 5i$

$$x - 3y = 6 \Rightarrow x = 6 + 3y \quad \text{--- ①}$$

$$2x + y = 5 \quad \text{--- ②}$$

$$2(6 + 3y) + y = 5$$

$$12 + 6y + y = 5 \Rightarrow 7y = 5 - 12$$

$$7y = -7 \div 7$$

$$y = -1$$

$$x = 6 + 3(-1)$$

$$x = 6 - 3$$

$$x = 3$$

وزارة 2009

$$4y^2 - 5y - 9 = 0$$

$$(4y - 9)(y + 1) = 0$$

$$4y - 9 = 0 \Rightarrow y = \frac{9}{4}$$

$$y + 1 = 0 \Rightarrow y = -1$$

$$y = \frac{9}{4} \Rightarrow x = 2\left(\frac{9}{4}\right) \Rightarrow x = \frac{9}{2}$$

$$y = -1 \Rightarrow x = -2$$

$$(3 + 2i)y = (x + 3i)^2$$

$$(9 + 12i - 4)y = x^2 + 6xi - 9$$

$$(5 + 12i)y = x^2 + 6xi - 9$$

$$5y + 12yi = x^2 + 6xi - 9$$

$$5y = x^2 - 9 \quad (1)$$

$$\frac{12y}{6} = \frac{x}{6} \Rightarrow x = 2y \quad (2)$$

$$5y = (2y)^2 - 9$$

$$5y = 4y^2 - 9$$

$$y^2 - y - 6 = 0$$

$$(y - 3)(y + 2) = 0$$

$$y - 3 = 0 \Rightarrow y = 3$$

$$y + 2 = 0 \Rightarrow y = -2$$

$$y = 3 \Rightarrow x = 3 - 1 \Rightarrow x = 2$$

$$y = -2 \Rightarrow x = -2 - 1 \Rightarrow x = -3$$

س/جدة 2000

وزارة 2000

$$x(x+i) + y(y-i) + i = 13$$

$$x^2 + xi + y^2 - yi + i = 13$$

$$x^2 + y^2 = 13 \quad (1)$$

$$x - y = -1 \Rightarrow x = y - 1 \quad (2)$$

$$(y - 1)^2 + y^2 = 13$$

$$y^2 - 2y + 1 + y^2 = 13$$

$$2y^2 - 2y + 1 - 13 = 0$$

$$2y^2 - 2y - 12 = 0 \div 2$$

وزارة 2014 م

$$(93) y+7i = (3x+i)(x+2i)$$

$$y+7i = 3x^2 + 6xi + xi - 2$$

$$y+7i = 3x^2 + 7xi - 2$$

$$y = 3x^2 - 2 \quad (1)$$

$$\frac{7}{7} = \frac{7}{7}x$$

$$(x=1)$$

$$(y=1)$$

$$y = 2\left(\frac{5}{3}\right)^2 - 1$$

$$y = 2\left(\frac{25}{9}\right) - 1$$

$$y = \frac{50}{9} - 1$$

$$(y = \frac{41}{9})$$

س/ جرقية $x, y \in \mathbb{R}$

وزارة 2020 م

$$(99) y+5i = (2x+i)(x+i)$$

$$y+5i = 2x^2 + 2xi + xi - 1$$

$$y+5i = 2x^2 + 3xi - 1$$

$$y = 2x^2 - 1 \quad (1)$$

$$\frac{5}{3}x = \frac{5}{3}$$

$$(x = \frac{5}{3})$$