BHASVIC MαTHS

A2 Doubles summer assignment Answers 1

Section: *Core*

Present

1. (a) 3 + 9i (b) 24 + 2i (c) -2 + 24i

   (d) 20 + 48i (e) 38 - 18i (f) 52

   (g) 1768 (h) -414 + 154i (i) 92 - 60i

2. (a) a = $-\frac{7}{13}$, b = $\frac{17}{13}$ (b) a = $\frac{12}{37}$, b = $-\frac{2}{37}$ (c) a = 8, b = -18

   (d) a = 1, b = 0 (e) a = 1, b = 0 (f) a = -6, b = 6

3. (a) $z = \pm(\sqrt{2} - \sqrt{2}i)$ (b) $z = \pm(\frac{3\sqrt{2}}{2} + \frac{3\sqrt{2}}{2}i)$ (c) $z = \pm(3 + i)$ (d) $z = \pm(\sqrt{\frac{\sqrt{26}+5}{2}} - \sqrt{\frac{\sqrt{26}+5}{2}}i)$

4. (a) $-\frac{1}{5} - \frac{8}{5}i$ (b) $-\frac{10}{17} + \frac{6}{17}i$ (c) $\frac{15}{17} + \frac{8}{17}i$ (d) $\frac{3}{5} - \frac{4}{5}i$ (e) -1 + i (f) $\frac{2}{5} - \frac{11}{5}i$

5. (a) 2 - i (b) 1 (c) 3 + i (d) $-\frac{35}{34} + \frac{149}{34}i$

6. a = 2, b = 2

7. Z = 2, w = i

8. $x^2 - 4x + 13 = 0$

9. z = 1 + 2i

10. z = $\frac{9}{2} - \frac{9}{2}i$, w = $-3 - \frac{4}{3}i$

11. z = $\frac{7}{5} - \frac{3}{5}i$

12. z = $\frac{2}{3} + 7i$

13. (i) 3 (ii) $3-4i$ (iii) $3+i$

    (iv) $-6+4i$ (v) $-15+36i$ (vi) $3-2i$

Future

1. (a) β = 2 - i

   (b) $x^2 - 4x + 5 = 0$

   (c) α + β = 4, the negative of the x coefficient in the equation,

   α β = 5, the constant term in the equation.