

**SM3 4.3 odd answers**

1.  $i$
2. .
3.  $6i\sqrt{2}$
4. .
5.  $-30$
6. .
7.  $4$
8. .
9.  $17 - i$
10. .
11.  $x^2 - 8x + 17$
12. .
13.  $x = \pm 3i, f(x) = (x + 3i)(x - 3i)$
14. .
15. .
16. .
17.  $x = 1 \pm 3i$
18. .
19.  $x = \frac{1 \pm 2i}{3}$
20. .
21. zeros:  $1, -1, 2i, -2i$ ;  $x$ -intercepts:  $1, -1$ ;

$$f(x) = x^4 + 3x^2 - 4$$

22. .
23. zeros:  $2, 3, i, -i$ ;  $x$ -intercepts:  $2, 3$ ;

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

24. .
25. zeros:  $-4, 2i, -2i$ ;  $x$ -intercepts:  $-4$ ;

$$f(x) = (x + 4)(x - 2i)(x + 2i)$$

26. .
27. degree:  $4$ ; zeros:  $2, 3 + i, 3 - i$ ;  $x$ -intercepts:  $2$ ;

$$f(x) = (x - 2)^2(x - 3 + i)(x - 3 - i)$$