Trig / Pre-Calc
P. 6 Review

Written Exercises (Do the odd problems)

Simplify.

1. $(3 + 2i) + (4 + 5i)$
2. $(2 + 6i) + (4 + 3i)$
3. $(9 + 6i) - (3 + 2i)$
4. $(11 - \sqrt{-3}) - (-4 + \sqrt{-5})$
5. $(5 + \sqrt{-7}) + (-3 + \sqrt{-2})$
6. $(8 - 7i) + (-5 - i)$
7. $(3 - 11i) - (-5 + 4i)$
8. $(-6 - 2i) - (-8 - 3i)$
9. $(4 + 2i\sqrt{3}) + (1 - 5i\sqrt{3})$
10. $(8 - 3i\sqrt{5}) + (-3 + 2i\sqrt{5})$
11. $2(-3 + 2i) + 3(-5 - 2i)$
12. $-6(2 - i) + 3(4 - 5i)$
13. $(2 - 3i)(5 + i)$
14. $(5 + 3i)(6 - i)$
15. $(6 - 2i)^2$
16. $(2 + i\sqrt{3})^2$
17. $(7 - i\sqrt{2})(5 + i\sqrt{2})$
18. $(4 - 3i)(7 - 2i)$
19. $(3 + 2i)^2$
20. $(3 + 4i)^2$
21. $(\sqrt{2} + i)(\sqrt{2} - i)$
22. $(3 + 2i)(3 - 2i)$
23. $(2 - \sqrt{-3})(2 + \sqrt{-3})$
24. $(3 + \sqrt{-2})(3 - \sqrt{-2})$
25. $(2 + i)(3 - 4i)(1 + 2i)$
26. $(6 - i)(5 + 2i)(3 + 3i)$
27. $(7 - 5i)(2 - 3i)(7 + 5i)$
28. $(9 + 2i)(5 + i)(9 - 2i)$
29. $(4 + 3i)(2 - 7i)(3 + i)$
30. $(7 - i)(4 + 2i)(5 + 2i)$

Written Exercises (Do the problems that are multiples of 3)

Find the product of each complex number and its conjugate.

1. $3 - 7i$
2. $6 + 5i$
3. $2 + 9i$
4. $17 - i$
5. $2 - 3i$
6. $7 - 7i$
7. $-2i$
8. $-10i$

Simplify.

9. $\dfrac{3 - 2i}{1 - i}$
10. $\dfrac{4 + 5i}{1 + i}$
11. $\dfrac{1 + i}{3 + 2i}$
12. $\dfrac{1 - i}{4 - 5i}$
13. $\dfrac{3 + 5i}{2i}$
14. $\dfrac{4 - 7i}{-3i}$
15. $\dfrac{5 - 6i}{-3i}$
16. $\dfrac{2 + i}{5i}$
17. $\dfrac{3}{4 - i}$
18. $\dfrac{2}{6 + 5i}$
19. $\dfrac{4}{\sqrt{3} + 2i}$
20. $\dfrac{7}{\sqrt{2} - 3i}$
21. $\dfrac{2 + i\sqrt{3}}{2 - i\sqrt{3}}$
22. $\dfrac{1 + i\sqrt{2}}{1 - i\sqrt{2}}$
23. $\dfrac{3 - i\sqrt{5}}{3 + i\sqrt{5}}$
24. $\dfrac{2 - i\sqrt{7}}{2 + i\sqrt{7}}$
25. $\dfrac{(2 + 3i)^2}{(3 + i)^2}$
26. $\dfrac{(3 + 3i)^2}{(1 + i)^2}$
27. $\dfrac{1 - i}{(1 + i)^2}$
28. $\dfrac{(4 + 3i)^2}{(3 - i)^2}$