COMPLEX NUMBERS PRACTICE

Express in terms of *i*:

1. $\sqrt{-7}$
2. $\sqrt{-16}$
3. $-\sqrt{-5}$
4. $-\sqrt{-25}$
5. $\sqrt{-36}$

Simplify:

6. $\sqrt{-5}\sqrt{-2}$
7. $\frac{\sqrt{-20}}{\sqrt{2}}$
8. $\frac{\sqrt{-10}}{\sqrt{-15}}$
9. $\sqrt{-18}+\sqrt{-12}$
10. $\sqrt{-25}-\sqrt{-16}$
11. $-\sqrt{-4}\sqrt{-5}$
12. $\sqrt{-36}-\sqrt{-9}$
13. $\frac{-\sqrt{5}}{\sqrt{-2}}$
14. i^{16}
15. i^{27}
16. i^{3}
17. i^{12}
18. $(4+3i)+(2i+7)$
19. $(5+2i)+(i+4)$
20. $(9+4i)+6i$
21. $2i(2+4i)$
22. $4(3i+9)$
23. $3(2+i)+2(3i+1)$
24. $(3+2i)^2$
25. $(3i+4)^2$

Simplify and put your answer in standard form (i.e., no *i*s in the denominator, or a+b*i* form)

26. $\frac{2+4i}{i+2}$
27. $\frac{2i+3}{2+3i}$
28. $\frac{\sqrt{3}+i}{\sqrt{3}-i}$
29. $\frac{7i}{4+2i}$
30. $\frac{6+2i}{4i}$
31. $\frac{6}{2+3i}$
32. $\frac{1+i}{1-i}\cdot\frac{i+3}{1-i}$
33. $\frac{i+3}{2-i}\cdot\frac{i+4}{2-i}$
34. $\frac{2+i}{2-i}+\frac{2i+7}{2-i}$
35. $\frac{3+i}{2-i}+\frac{2i+4}{2-i}$