Dividing Complex Numbers (ALG.CN.07)

Write each quotient in standard form.

1. $\frac{6}{i}$ $-6i$

2. $\frac{3}{2i}$ $-\frac{3}{2}i$

3. $\frac{-4}{3i}$ $\frac{4}{3}i$

4. $\frac{1}{i^{11}}$ i

5. $\frac{-1}{(2i)^5}$ $\frac{1}{32}i$

6. $\frac{5-i}{-4i}$ $\frac{1}{4}+\frac{5}{4}i$

7. $\frac{1-4i}{5i}$ $-\frac{4}{5}-\frac{1}{5}i$

8. $\frac{5}{2+i}$ $2-i$

9. $\frac{2i}{3-6i}$ $-\frac{4}{15}+\frac{2}{15}i$

10. $\frac{-3i}{-5-2i}$ $\frac{6}{29}+\frac{15}{29}i$

11. $\frac{5-2i}{-6+i}$ $-\frac{32}{37}+\frac{7}{37}i$

12. $\frac{6-5i}{-3+4i}$ $-\frac{38}{25}-\frac{9}{25}i$

13. $\frac{2-i}{2+i}$ $\frac{3}{5}-\frac{4}{5}i$

14. $\frac{1+7i}{7-i}$ i

15. $\frac{11-4i}{i^3}$ $4+11i$

16. $\frac{-3}{5i+i^2}$ $\frac{3}{26}+\frac{15}{26}i$

17. $\frac{-6+i}{(1-3i)^2}$ $\frac{21}{50}-\frac{11}{25}i$

18. $\frac{3i}{(2+5i)^2}$ $\frac{60}{841}-\frac{63}{841}i$

19. $\frac{\sqrt{2}+\sqrt{3}i}{\sqrt{3}-\sqrt{2}i}$ i

20. $\frac{\sqrt{3}-5i}{5-i\sqrt{5}}$ $\left(\frac{\sqrt{3}+\sqrt{5}}{6}\right)+\left(\frac{\sqrt{15}-25}{30}\right)i$