

Fractions: Simplify.

1. $-\frac{9}{4} \cdot \frac{1}{3}$

2. $-2 \cdot \frac{3}{7}$

3. $-2\frac{3}{8} \cdot 2\frac{1}{2}$

4. $-\frac{5}{21} \div -\frac{10}{7}$

5. $\frac{-9}{\frac{5}{2}}$

6. $\frac{-3\frac{7}{10}}{2\frac{1}{4}}$

7. $6 - \frac{1}{6}$

8. $\left(-\frac{4}{5}\right) - \left(\frac{7}{8}\right)$

9. $\left(\frac{9}{5}\right) + \left(-\frac{4}{3}\right)$

10. $2 - \frac{13}{8}$

11. $-1 + \left(-2\frac{2}{5}\right)$

12. $2\frac{4}{5} - \frac{5}{8}$

13. $\frac{\frac{1}{3}}{\frac{35}{36}}$

14. $\frac{2\left(-\frac{1}{6}\right)}{1 - \left(-\frac{1}{6}\right)^2}$

15. $\frac{2\left(\frac{3}{4}\right)}{1 - \left(\frac{3}{4}\right)^2}$

16. $\frac{1 - \frac{24}{25}}{\frac{7}{-25}}$

Square Roots: Simplify.

17. $\sqrt{3}(-5\sqrt{10} + \sqrt{6})$

18. $-2\sqrt{15}(-3\sqrt{3} + 3\sqrt{5})$

19. $(\sqrt{2} + \sqrt{5})(\sqrt{2} - \sqrt{5})$

20. $(5 + 4\sqrt{3})(3 + \sqrt{3})$

21. $\frac{\sqrt{15}}{5\sqrt{20}}$

22. $\frac{3 - 3\sqrt{3}}{4\sqrt{8}}$

23. $\frac{3 + \sqrt{2}}{\sqrt{10}}$

24. $\frac{3}{4 + 4\sqrt{5}}$

25. $\frac{4}{\sqrt{2} - 5\sqrt{3}}$

26. $\frac{3 - 4\sqrt{3}}{4\sqrt{5} + 3\sqrt{2}}$

27. $\left(\frac{2}{\sqrt{3}}\right)^2 - \left(\frac{4}{\sqrt{3}}\right)^2$

28. $2\left(\frac{6}{\sqrt{37}}\right)^2 - 1$

29. $1 - 2\left(\frac{6}{\sqrt{216}}\right)^2$

30. $\frac{-3\sqrt{5}}{1 - \left(-\frac{3\sqrt{5}}{2}\right)^2}$

31. $\sqrt{\frac{2 + \sqrt{3}}{\sqrt{2}}}$

32. $\sqrt{\frac{1 - \frac{\sqrt{3}}{2}}{2}}$

33. $\sqrt{\frac{2 + \sqrt{3}}{\frac{2}{2}}}$

34. $\sqrt{\frac{2 + \frac{2}{5\sqrt{3}}}{2}}$