

3.5 Exercises

FOR
EXTRA
HELP



Addison-Wesley
Math Tutor Center



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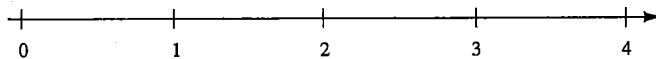
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Locate each fraction in Exercises 1–12 on the following number line. See Margin Problem 1.



1. $\frac{1}{2}$

2. $\frac{1}{4}$

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

4. $\frac{5}{4}$

5. $\frac{7}{3}$

6. $\frac{11}{4}$

7. $2\frac{1}{6}$

8. $3\frac{4}{5}$

9. $\frac{7}{2}$

10. $\frac{7}{8}$

11. $3\frac{1}{4}$

12. $1\frac{7}{8}$

Write $<$ or $>$ to make a true statement. See Examples 1 and 2.

13. $\frac{1}{2}$ _____ $\frac{3}{8}$

14. $\frac{5}{8}$ _____ $\frac{3}{4}$

15. $\frac{5}{6}$ _____ $\frac{11}{12}$

16. $\frac{13}{18}$ _____ $\frac{5}{6}$

17. $\frac{5}{12}$ _____ $\frac{3}{8}$

18. $\frac{7}{15}$ _____ $\frac{9}{20}$

19. $\frac{7}{12}$ _____ $\frac{11}{18}$

20. $\frac{17}{24}$ _____ $\frac{5}{6}$

21. $\frac{11}{18}$ _____ $\frac{5}{9}$

22. $\frac{13}{15}$ _____ $\frac{8}{9}$

23. $\frac{37}{50}$ _____ $\frac{13}{20}$

24. $\frac{7}{12}$ _____ $\frac{11}{20}$

Simplify. See Example 3.

25. $\left(\frac{1}{3}\right)^2$

26. $\left(\frac{2}{3}\right)^2$

27. $\left(\frac{5}{8}\right)^2$

28. $\left(\frac{7}{8}\right)^2$

29. $\left(\frac{3}{4}\right)^2$

30. $\left(\frac{3}{5}\right)^3$

31. $\left(\frac{4}{5}\right)^3$

32. $\left(\frac{4}{7}\right)^3$

33. $\left(\frac{3}{2}\right)^4$

34. $\left(\frac{4}{3}\right)^4$

35. $\left(\frac{3}{4}\right)^4$

36. $\left(\frac{2}{3}\right)^5$

37. Describe in your own words what a number line is, and draw a picture of one. Be sure to include how it works and how it can be used.

38. You have used the order of operations with whole numbers and again with fractions. List from memory the steps in the order of operations.

Use the order of operations to simplify each expression. See Example 4.

39. $2^4 - 4(3)$

40. $3^2 + 4(1)$

41. $3 \cdot 2^2 - \frac{6}{3}$

42. $5 \cdot 2^3 - \frac{6}{2}$

43. $\left(\frac{1}{2}\right)^2 \cdot 4$

44. $\left(\frac{1}{4}\right)^2 \cdot 4$

45. $\left(\frac{3}{4}\right)^2 \cdot \left(\frac{1}{3}\right)$

46. $\left(\frac{2}{3}\right)^3 \cdot \left(\frac{1}{2}\right)$

47. $\left(\frac{4}{5}\right)^2 \cdot \left(\frac{5}{6}\right)^2$

48. $\left(\frac{5}{8}\right)^2 \cdot \left(\frac{4}{25}\right)^2$

49. $6\left(\frac{2}{3}\right)^2\left(\frac{1}{2}\right)^3$

50. $9\left(\frac{1}{3}\right)^3\left(\frac{4}{3}\right)^2$

51. $\frac{3}{5}\left(\frac{1}{3}\right) + \frac{2}{5}\left(\frac{3}{4}\right)$

52. $\frac{1}{4}\left(\frac{3}{4}\right) + \frac{3}{8}\left(\frac{4}{3}\right)$

53. $\frac{1}{2} + \left(\frac{1}{2}\right)^2 - \frac{3}{8}$

54. $\frac{2}{3} + \left(\frac{1}{3}\right)^2 - \frac{5}{9}$