

Summer Math Packet for Incoming 6th Graders

Welcome to 6th grade! This packet has 100 problems covering the major 5th-grade skills you'll need in 6th grade. Work through them over the summer at your own pace.

Instructions: Show your work and write your answer clearly. You can use drawings, equations, or words to explain your thinking.

Section 1: Fractions with Unlike Denominators (Problems 1–20)

Add and subtract fractions by finding common denominators.

1. $\frac{1}{2} + \frac{1}{3} =$

2. $\frac{1}{4} + \frac{1}{3} =$

3. $\frac{3}{4} + \frac{1}{6} =$

4. $\frac{2}{3} - \frac{1}{4} =$

5. $\frac{5}{6} - \frac{1}{3} =$

6. $\frac{3}{5} + \frac{1}{2} =$

7. $\frac{7}{8} - \frac{1}{4} =$

8. $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} =$

9. $1\frac{1}{2} + \frac{3}{4} =$

10. $2\frac{1}{3} - \frac{2}{3} =$

11. $\frac{5}{12} + \frac{1}{4} =$

12. $\frac{7}{10} - \frac{2}{5} =$

13. $\frac{2}{5} + \frac{1}{3} =$

14. $\frac{11}{12} - \frac{1}{6} =$

15. $3\frac{1}{4} + 2\frac{1}{2} =$

16. $4\frac{2}{3} - 1\frac{1}{3} =$

17. $\frac{1}{6} + \frac{1}{4} + \frac{1}{3} =$

18. $5\frac{3}{5} + \frac{2}{5} =$

19. $\frac{9}{10} - \frac{3}{5} =$

20. **Real-World Problem:** Maria ran $\frac{3}{4}$ mile on Monday and $\frac{2}{3}$ mile on Tuesday. How many miles did she run in total? How much farther did she run on one day than the other?

Section 2: Multiplying Fractions & Division with Fractions (Problems 21–40)

Multiply and divide with fractions.

$$21. \frac{1}{2} \times \frac{3}{4} =$$

$$22. \frac{2}{3} \times \frac{1}{2} =$$

$$23. \frac{3}{5} \times \frac{2}{3} =$$

$$24. 2 \times \frac{3}{4} =$$

$$25. 3 \times \frac{2}{5} =$$

$$26. \frac{1}{2} \times 6 =$$

$$27. \frac{1}{3} \div 2 =$$

$$28. \frac{1}{4} \div 3 =$$

$$29. 2 \div \frac{1}{2} =$$

$$30. 3 \div \frac{1}{3} =$$

$$31. \frac{3}{4} \times \frac{8}{9} =$$

$$32. \frac{5}{6} \times \frac{3}{10} =$$

$$33. 4 \times \frac{1}{5} =$$

$$34. \frac{2}{3} \times 9 =$$

$$35. \frac{1}{6} \div 2 =$$

$$36. 4 \div \frac{1}{4} =$$

$$37. \frac{7}{8} \times \frac{4}{7} =$$

$$38. 5 \times \frac{3}{10} =$$

$$39. \frac{1}{2} \div 4 =$$

40. **Real-World Problem:** A recipe calls for $\frac{3}{4}$ cup of sugar. If you're making half the recipe, how much sugar do you need? If you triple the recipe, how much sugar is needed?

Section 3: Decimals & Operations with Decimals (Problems 41–60)

Add, subtract, multiply, and divide decimals.

41. $3.5 + 2.3 =$

42. $7.2 + 1.8 =$

43. $5.6 - 2.3 =$

44. $8.9 - 3.4 =$

45. $0.5 + 0.25 =$

46. $2.15 + 1.75 =$

47. $4.25 - 1.5 =$

48. $10.05 - 3.2 =$

49. $2.5 \times 4 =$

50. $3.2 \times 5 =$

51. $0.5 \times 0.6 =$

52. $1.5 \times 2.4 =$

$$53. 8 \div 2.5 =$$

$$54. 12 \div 0.4 =$$

$$55. 2.4 \div 2 =$$

$$56. 7.5 \div 1.5 =$$

$$57. 6.3 + 2.7 - 4.5 =$$

$$58. 5.25 + 3.75 =$$

$$59. 9.99 - 4.99 =$$

60. **Real-World Problem:** A bottle of juice costs \$2.50 and a bag of chips costs \$1.75. If you buy 2 bottles of juice and 1 bag of chips, how much do you spend? If you pay with a \$10 bill, how much change do you get?

Section 4: Volume & Measurement (Problems 61–75)

Find volume and convert measurement units.

61. Find the volume of a rectangular prism with length 5, width 3, and height 2
62. Find the volume of a rectangular prism with length 4, width 4, and height 6
63. Find the volume of a cube with side length 3
64. Find the volume of a cube with side length 5
65. A rectangular prism has a volume of 24 cubic units. If the length is 4 and width is 3, what is the height?
66. Convert 3 meters to centimeters
67. Convert 500 centimeters to meters
68. Convert 2.5 kilometers to meters
69. Convert 4000 meters to kilometers
70. Convert 1500 milliliters to liters
71. Convert 3 liters to milliliters
72. Convert 2 pounds to ounces

73. Convert 32 ounces to pounds

74. Convert 5 feet to inches

75. **Real-World Problem:** A storage box is 2 feet long, 1.5 feet wide, and 1 foot tall. What is the volume in cubic feet? If you fill it with items that take up 2.5 cubic feet, how much space is left?

Section 5: Decimal Place Value & Powers of 10 (Problems 76–90)

Understand place value and multiply/divide by powers of 10.

76. In the number 5.234, what place value does the 2 represent?

77. In the number 12.587, what place value does the 5 represent?

78. Write 0.35 in words

79. Write "forty-two hundredths" as a decimal

80. Compare: 0.5 ___ 0.50 (use <, >, or =)

31. $3.6 \times 10 =$

32. $5.2 \times 100 =$

33. $0.45 \times 10 =$

34. $2.8 \div 10 =$

35. $45 \div 100 =$

36. $0.7 \div 10 =$

37. Order from least to greatest: 0.6, 0.06, 0.66

38. Compare: 3.08 ___ 3.8 (use <, >, or =)

39. Round 5.67 to the nearest tenth

40. **Real-World Problem:** A recipe calls for 0.5 cups of flour. If you want to make 10 times the recipe, how much flour do you need? If you only want to make $\frac{1}{10}$ of the recipe, how much flour do you use?

Section 6: Mixed Review & Applications (Problems 91–100)

Practice a mix of all concepts from the packet.

91. Convert $\frac{1}{4}$ to a decimal

92. Convert $\frac{3}{4}$ to a decimal

93. Convert 0.5 to a fraction

94. Convert 0.75 to a fraction

95. $\frac{2}{5}$ of 20 =

96. $\frac{3}{4}$ of 12 =

97. Find $\frac{1}{3}$ of 18

98. Find $\frac{2}{3}$ of 15

99. $4.5 + 2.3 + 1.2 =$

100. **Real-World Problem:** You have \$20 to spend. You want to buy a notebook for \$3.50, a pen for \$1.25, and a book that costs $\frac{1}{4}$ of your total money. How much money will you have left after buying all three items? Show all your work and explain your thinking.

Answer Key

Section 1: Fractions with Unlike Denominators

1. $\frac{5}{6}$ | 2. $\frac{7}{12}$ | 3. $\frac{11}{12}$ | 4. $\frac{5}{12}$ | 5. $\frac{1}{2}$ | 6. $\frac{11}{10}$ or $1\frac{1}{10}$ | 7. $\frac{5}{8}$ | 8. $\frac{7}{8}$ | 9. $2\frac{1}{4}$ | 10. $1\frac{2}{3}$ | 11. $\frac{2}{3}$ | 12. $\frac{3}{10}$ | 13. $\frac{11}{15}$ | 14. $\frac{3}{4}$ | 15. $5\frac{3}{4}$ | 16. $3\frac{1}{3}$ | 17. $\frac{3}{4}$ | 18. 6 | 19. $\frac{3}{10}$ | 20. Total: $1\frac{5}{12}$ miles; Difference: $\frac{1}{12}$ mile

Section 2: Multiplying Fractions & Division with Fractions

21. $\frac{3}{8}$ | 22. $\frac{1}{3}$ | 23. $\frac{2}{5}$ | 24. $\frac{3}{2}$ or $1\frac{1}{2}$ | 25. $\frac{6}{5}$ or $1\frac{1}{5}$ | 26. 3 | 27. $\frac{1}{6}$ | 28. $\frac{1}{12}$ | 29. 4 | 30. 9 | 31. $\frac{1}{3}$ | 32. $\frac{1}{4}$ | 33. $\frac{4}{5}$ | 34. 6 | 35. $\frac{1}{12}$ | 36. 16 | 37. $\frac{1}{2}$ | 38. $\frac{3}{2}$ or $1\frac{1}{2}$ | 39. $\frac{1}{8}$ | 40. Half recipe: $\frac{3}{8}$ cup; Triple recipe: $2\frac{1}{4}$ cups

Section 3: Decimals & Operations with Decimals

41. 5.8 | 42. 9 | 43. 3.3 | 44. 5.5 | 45. 0.75 | 46. 3.9 | 47. 2.75 | 48. 6.85 | 49. 10 | 50. 16 | 51. 0.3 | 52. 3.6 | 53. 3.2 | 54. 30 | 55. 1.2 | 56. 5 | 57. 3.5 | 58. 9 | 59. 5 | 60. Total: \$6.25; Change: \$3.75

Section 4: Volume & Measurement

61. 30 cubic units | 62. 96 cubic units | 63. 27 cubic units | 64. 125 cubic units | 65. 2 units | 66. 300 cm | 67. 5 m | 68. 2500 m | 69. 4 km | 70. 1.5 liters | 71. 3000 ml | 72. 32 ounces | 73. 2 pounds | 74. 60 inches | 75. Volume: 3 cubic feet; Space left: 0.5 cubic feet

Section 5: Decimal Place Value & Powers of 10

76. Hundredths place

77. Tens place

78. Thirty-five hundredths

79. 0.42

80. = (equal)

81. 36

82. 520

83. 4.5

84. 0.28

85. 0.45

86. 0.07

87. 0.06, 0.6, 0.66

88. $<$ (less than)

89. 5.7

90. 10 times the recipe: 5 cups; $\frac{1}{10}$ of recipe: 0.05 cups

Section 6: Mixed Review & Applications

91. 0.25 | 92. 0.75 | 93. $\frac{1}{2}$ | 94. $\frac{3}{4}$ | 95. 8 | 96. 9 | 97. 6 | 98. 10 | 99. 8 | 100. Notebook: \$3.50; Pen: \$1.25; Book: \$5 ($\frac{1}{4}$ of \$20); Total spent: \$9.75; Money left: \$10.25