

Sherman 7th Grade Summer Math Packet:

Getting Ready for 7th Grade

This packet is designed to review skills needed for the first few units of your 7th grade math year.

This is meant to be completed weekly throughout the summer. It is recommended to complete approximately 12 problems per week to keep these skills fresh in your mind throughout the summer.

This packet will be collected upon your return to school in September, and you will earn points for its completion.

Good luck!

Section A: Division and Fractions (Questions 1–18)

These skills are essential for calculating scale factors and unit rates in Unit 1!

Skill Practice: Whole Number Division

1. $24 \div 8 =$ _____

2. $45 \div 9 =$ _____

3. $56 \div 7 =$ _____

4. $100 \div 4 =$ _____

5. $72 \div 6 =$ _____

Real-Life Application: Equal Groups

6. You have 36 photos to print and want to arrange them equally in 4 albums. How many photos will go in each album? _____

7. A coach has 60 students and wants to divide them equally into 5 teams for a tournament. How many students are on each team? _____

Skill Practice: Representing Division as a Fraction

8. Write the division $15 \div 3$ as a fraction: _____

9. Write the division $20 \div 5$ as a fraction: _____

10. $\frac{8}{2} =$ _____

11. $\frac{12}{4} =$ _____

12. $\frac{20}{5} =$ _____

Real-Life Application: Sharing and Portions

13. Three friends share a \$24 pizza bill equally. How much does each person pay?

(Write as a division and as a fraction, then solve.) _____

14. A 16-pound bag of dog food will be divided equally among 4 dogs over the summer.

How many pounds will each dog eat? _____

Skill Practice: Fraction Division

Use the blank space provided to sketch out each division problem as needed.

15. $\frac{1}{2} \div \frac{1}{4} =$ _____

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

17. $2 \div \frac{1}{3} =$ _____

Real-Life Application: Recipe Conversions

18. A recipe for trail mix uses $\frac{3}{4}$ cup of almonds per batch. You have 3 cups of almonds.
How many batches can you make? _____

Section B: Multiplying Fractions and Mixed Numbers (Questions 19–38)

Skill Practice: Multiplying Fractions by Whole Numbers

19. $\frac{1}{2} \times 8 =$ _____

20. $\frac{1}{3} \times 12 =$ _____

21. $\frac{2}{3} \times 9 =$ _____

22. $\frac{3}{4} \times 16 =$ _____

23. $\frac{5}{6} \times 12 =$ _____

Real-Life Application: Scaling Recipes

24. A cookie recipe calls for $\frac{2}{3}$ cup of brown sugar. If you triple the recipe, how much brown sugar do you need? _____

25. A smoothie recipe uses $\frac{1}{4}$ cup of honey. You're making 5 smoothies using the same recipe. How much honey do you need total? _____

Skill Practice: Multiplying Fractions by Fractions

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

27. $\frac{2}{3} \times \frac{1}{2} =$ _____

28. $\frac{3}{5} \times \frac{2}{3} =$ _____

29. $\frac{4}{5} \times \frac{5}{8} =$ _____

Real-Life Application: Finding Portions of Amounts

30. A bakery donated $\frac{3}{4}$ of a dozen cookies to a food bank. The food bank kept $\frac{1}{3}$ of the donation for a community event. How many cookies did the food bank keep? (A dozen = 12 cookies) _____

31. You have $\frac{2}{3}$ of a large pizza left. Your friend eats $\frac{1}{4}$ of what remains. What fraction of the original pizza did your friend eat? _____

Skill Practice: Multiplying Mixed Numbers

32. $2\frac{1}{2} \times 4 =$ _____

33. $3\frac{1}{3} \times 6 =$ _____

34. $1\frac{1}{2} \times 2\frac{1}{3} =$ _____

Real-Life Application: Computing with Mixed Measurements

35. Fabric costs \$8.50 per yard. You need $\frac{2}{3}$ yards to make a scarf. What is the total cost? _____

36. A recipe for punch uses $\frac{1}{4}$ cups of orange juice per serving. How much orange juice is needed for 8 servings? _____

37. A garden plot is $4\frac{1}{2}$ feet long. If you want to arrange plants every $\frac{1}{4}$ foot along the length, how many plants will fit? _____

Section C: Decimals (Questions 39–58)

Decimal skills are used in scale drawings, measurement, and proportional reasoning.

Skill Practice: Adding and Subtracting Decimals

39. $3.5 + 2.1 =$ _____

40. $8.7 - 3.2 =$ _____

41. $4.25 + 1.75 =$ _____

42. $10 - 3.6 =$ _____

43. $5.5 + 4.5 =$ _____

Real-Life Application: Shopping and Money

44. You buy a notebook for \$3.99, a pen for \$1.50, and a highlighter for \$2.25. What is your total before tax? _____

45. Your parents give you \$20 to buy lunch. The meal costs \$12.75. How much change will you get back? _____

Skill Practice: Multiplying Decimals

46. $2.5 \times 4 =$ _____

47. $3.2 \times 5 =$ _____

48. $1.5 \times 2.4 =$ _____

49. $0.5 \times 8 =$ _____

50. $2.25 \times 2 =$ _____

Real-Life Application: Scaling Lengths and Distances

51. On a map, a road is 2.5 inches long. The map scale is 1 inch = 4 miles. How many miles long is the actual road? _____

52. A model car is 3.2 inches long. The scale is 1 inch = 2 feet. How long is the real car?

Skill Practice: Dividing Decimals

53. $12 \div 4 =$ _____

54. $15 \div 5 =$ _____

55. $9.6 \div 2 =$ _____

56. $8.4 \div 3 =$ _____

Real-Life Application: Finding Unit Prices and Rates

57. A 4-pack of notebooks costs \$10.80. What is the price per notebook? _____

58. You run 6.2 miles in 1 hour. What is your average speed in miles per hour?

Section D: Ratios and Equivalent Ratios (Questions 59–82)

Skill Practice: Writing and Identifying Ratios

For each ratio problem below, draw a picture to show the ratio and write the ratio.

59. Write a ratio for 3 apples to 5 oranges: _____

60. In a classroom, there are 12 boys and 18 girls. Write the ratio of boys to girls:

61. A recipe uses 2 cups of flour and 1 cup of sugar. Write the ratio of flour to sugar:

62. In a parking lot, there are 24 cars and 8 motorcycles. Write the ratio of motorcycles to total vehicles: _____

Real-Life Application: Ratio Scenarios in Sports and Nature

63. On your basketball team, the ratio of guards to forwards is 4:3. If there are 8 guards, how many forwards are there? _____

64. In a wildlife sanctuary, the ratio of tigers to lions is 5:2. If there are 15 tigers, how many lions are there? _____

Skill Practice: Equivalent Ratios

For each ratio problem below, show your reasoning:

65. Are these ratios equivalent? $2 : 3$ and $4 : 6$ _____

66. Are these ratios equivalent? $3 : 5$ and $6 : 9$ _____

67. Complete: $2 : 5 = 6 : \underline{\hspace{2cm}}$

68. Complete: $3 : 4 = \underline{\hspace{2cm}} : 12$

69. Complete: $5 : 2 = 15 : \underline{\hspace{2cm}}$

Real-Life Application: Scaling Recipes and Mixtures

70. A punch recipe uses 3 parts juice to 2 parts water. If you make a batch with 9 cups of juice, how much water do you need? _____

71. Paint mixture A uses 2 parts red to 3 parts yellow. Paint mixture B uses 4 parts red to 6 parts yellow. Are these the same color? _____

72. A lemonade recipe uses the ratio 1 cup sugar : 4 cups water. You want to make 20 cups of lemonade. How much sugar and how much water do you need?

Skill Practice: Scale and Maps

73. A map scale is 1:100. If the distance on the map is 5 cm, what is the actual distance? _____
74. On an architectural drawing, 1 inch represents 10 feet. If a room is drawn as 2.5 inches long, how long is the actual room? _____

Real-Life Application: Comparing Options

75. Store A sells notebooks at a ratio of 3 notebooks for \$9. Store B sells them at 5 notebooks for \$15. Do these stores have the same price per notebook? Show your reasoning:
76. Recipe A uses a ratio of 4 cups flour : 2 cups sugar. Recipe B uses 6 cups flour : 3 cups sugar. Will these recipes taste the same? Show your reasoning:
77. Two friendship bracelets are made with beads. Bracelet 1 has a ratio of 5 red : 3 blue. Bracelet 2 has 10 red : 6 blue. Do they have the same pattern? Show your reasoning:

78. A car travels 150 miles on 5 gallons of gas. Another car travels 180 miles on 6 gallons. Which car gets better gas mileage (miles per gallon)? Show your reasoning:

Section E: Unit Rates (Questions 79–100)

Unit rates help you analyze proportional relationships and compare quantities.

Skill Practice: Calculating Unit Rates

79. A car travels 120 miles in 2 hours. What is the speed in miles per hour? _____

80. A printer prints 300 pages in 5 minutes. How many pages per minute? _____

81. If 3 pounds of apples cost \$4.50, what is the price per pound? _____

82. A runner covers 9 miles in 1.5 hours. What is the speed in miles per hour?

83. A store sells 5 lemons for \$3. What is the price per lemon? _____

Real-Life Application: Hourly Wages and Earnings

84. You earn \$75 for 10 hours of work. What is your hourly wage? _____
85. Your friend earns \$12 per hour and works 8 hours a day. How much does your friend earn in one day? _____
86. A summer job pays \$9.50 per hour. If you work 20 hours over the course of a week, how much will you earn? _____

Real-Life Application: Shopping and Value

87. A bakery sells 24 cookies for \$8. What is the price per cookie? _____
88. Which is the better deal: 3 shirts for \$45 or 5 shirts for \$70? _____ Calculate both unit prices to justify your answer.
89. Orange juice costs \$2.40 for 2 bottles or \$3.50 for 3 bottles. Which option is cheaper per bottle? Show your reasoning:

Real-Life Application: Cooking and Recipes

90. A recipe uses 1.5 cups of milk for 3 servings. How many cups of milk are needed for 8 servings? _____
91. A cookie recipe calls for 2 cups of flour to make 24 cookies. How much flour do you need to make 60 cookies? _____
92. A punch recipe uses 2 cups of juice concentrate for 8 cups of total punch. If you want to make 20 cups of punch, how much juice concentrate do you need?

Real-Life Application: Travel and Speed

93. A bus travels at an average speed of 45 miles per hour. How far will it travel in 3 hours? _____
94. You ride your bike at 12 miles per hour. How long will it take you to travel 36 miles?
95. An airplane flies 1,500 miles in 3 hours. What is its average speed in miles per hour?
96. A train travels 240 miles in 4 hours, then 180 miles in 3 hours. Which segment, the first or second, did it travel faster? _____

Real-Life Application: Problem-Solving with Multiple Steps

97. You're buying supplies for a party. Balloons cost \$1.50 per pack, and you need 4 packs. Streamers cost \$2.25 per roll, and you need 3 rolls. What is your total cost?

98. A pizza costs \$15 and feeds 4 people. A sandwich costs \$6 and feeds 1 person.
Which is the better value per person (which is cheaper per person)?

99. At a farmer's market, strawberries cost \$3 per pound. You buy 2.5 pounds. At the same market, blueberries cost \$4.50 per pound. You buy 1.5 pounds. What is your total cost? _____

100. Your family is planning a road trip. Your car travels 300 miles on 12 gallons of gas. Gas costs \$3.20 per gallon. If the trip is 450 miles, how much will you spend on gas? _____