



Linton Hall School

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This Summer Math Packet is for all students who will be entering 7th grade in the fall of 2020.

Please note: This packet contains two sections. The first section is a review of 6th grade concepts and the second section is readiness for 7th grade.

This packet must be completed prior to the start of school. It will be collected our first week back.

We understand everyone needs a break and wants to have fun over the summer. Therefore, please know that this is just reinforcement to make sure our students do not lose the skills they have learned throughout the school year.

Thank you for your continued support and have a blessed summer.

Summer Practice

Rising 7th Grade

Chapter 1

1.1 Find the sum, difference, product, or quotient.

- | | | | |
|------------------|---------------|-----------------|-------------------|
| 1. $262 - 59$ | 2. $47 + 158$ | 3. $306 \div 6$ | 4. 34×21 |
| 5. 34×5 | 6. $348 - 72$ | 7. $156 \div 4$ | 8. $13 + 19$ |

Describe the pattern. Then find the next two numbers.

9. 5, 9, 13, 17, ?, ? 10. 50, 43, 36, 29, ?, ? 11. 1600, 800, 400, 200, ?, ?

1.2 Estimate the sum, difference, product, or quotient.

- | | | | |
|-----------------|----------------|---------------------|--------------------|
| 12. $257 + 91$ | 13. $435 - 69$ | 14. 173×29 | 15. $381 \div 52$ |
| 16. $680 + 134$ | 17. $805 - 37$ | 18. $583 \div 61$ | 19. 48×32 |

20. You are buying spring water for use by runners at a road race. The water comes in cases of 36 bottles each. You buy 12 cases. Estimate the number of bottles you buy.

1.3 Find the value of the power. ex. $4^4 = 4 \cdot 4 \cdot 4 \cdot 4 = 256$

- | | | | |
|-----------|-----------|-------------|----------------|
| 21. 7^3 | 22. 6^4 | 23. 2 cubed | 24. 12 squared |
|-----------|-----------|-------------|----------------|

1.4 Evaluate the expression. PEMDAS

- | | | | |
|--------------------------------|---------------------------|---------------------------|-------------------------|
| 25. $27 - 17 + 4$ | 26. $5 \times 12 \div 20$ | 27. $18 + 9 \div 3$ | 28. $4 + 3^3$ |
| 29. $9 \times (2 + 6) \div 12$ | 30. $100 \div 5^2 + 5$ | 31. $10 - 2 \times 3 + 7$ | 32. $\frac{8^2}{9 - 5}$ |

1.5 Evaluate the expression when $x = 9$ and $y = 4$.

- | | | | |
|-----------------|--------------|--------------------|---------------------|
| 33. $3x$ | 34. $4x + y$ | 35. $92 - x^2$ | 36. $2x \div 3 + 5$ |
| 37. $y + x + 1$ | 38. $6 - y$ | 39. $x - y \div 2$ | 40. $x + y^2$ |

41. Let a represent your age in years. Your cousin is 9 years older. You can use the expression $a + 9$ to represent your cousin's age. Use the expression to find how old your cousin is if you are 13 years old.

1.6 Solve the equation using mental math.

- | | | | |
|-----------------|------------------|----------------------|---------------------|
| 42. $2b = 8$ | 43. $8 + z = 11$ | 44. $x - 2 = 21$ | 45. $18 \div x = 9$ |
| 46. $1 + x = 4$ | 47. $13 - q = 9$ | 48. $70 \div t = 10$ | 49. $4 \cdot c = 0$ |

1.7 50. The product of two whole numbers is 56. Their difference is 10. Find the two numbers. Begin by making a list of all the pairs of numbers whose product is 56.

Chapter 2

- 2.1** 1. Find the length of the line segment to the nearest centimeter.



Choose an appropriate customary unit and metric unit for the length.

2. your height 3. distance between towns 4. thickness of a ruler

- 2.2** Find the perimeter and the area of the rectangle or square.

5. a rectangle that is 6 in. by 3 in. 6. a square that is 12 mi by 12 mi

- 2.3** The scale on a map is 1 cm : 120 km. Find the actual distance, in kilometers, for the given length on the map.

7. 2 cm 8. 5 cm 9. 7 cm 10. 18 cm

- 2.4** The following data show the heights, in inches, of flowers in a flower box.

4, 6, 5, 5, 5, 6, 8, 4, 6, 5, 5, 6, 5

11. Make a frequency table of the data.
Use 5 $\frac{1}{4}$ = 5

12. Make a line plot of the data.
Number line w/ X above the number.

- 2.5** 13. Make a bar graph of the fish swimming speed data at the right.

Fish	Carp	Cod	Mackerel	Pike
Speed (km/h)	6	8	11	6

- 2.6** Graph the points on the same coordinate grid.

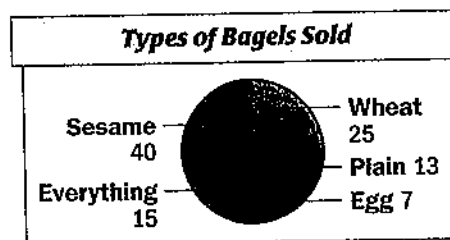
14. (0, 0) 15. (7, 1) 16. (2, 3) 17. (5, 4) 18. (1, 0)

19. Make a line graph of the running data at the right.

Time spent running (seconds)	0	10	20	30	40
Distance from start (meters)	0	25	40	45	45

- 2.7** The circle graph shows the number of bagels sold at a bakery in one day.

20. What type of bagel was most popular?
21. Suppose 300 bagels were sold at the bakery. Predict how many sesame bagels would be sold.



- 2.8** Find the mean, median, mode(s), and range.

22. Number of telephones in students' homes: 3, 4, 3, 4, 1, 2, 4, 2, 3, 4
23. Temperatures at 6 A.M. (°F): 22, 25, 30, 31, 34, 40, 49

Chapter 3

3.1 Write the number as a decimal.

1. fifty and forty-two hundredths 2. seventy-two thousandths

Write the decimal in words.

3. 0.008 4. 2.09 5. 1.11 6. 12.721 7. 7.0275

3.2 8. Find the length of the word *mathematics* to the nearest tenth of a centimeter.

9. A pencil is 15 centimeters long. Write the length of the pencil to the nearest hundredth of a meter.

3.3 Copy and complete the statement with $<$, $>$, or $=$.

10. $5.7 \underline{?} 7.5$ 11. $13.76 \underline{?} 13.81$
12. $6.05 \underline{?} 6.50$ 13. $17.98 \underline{?} 17.89$
14. $0.03 \underline{?} 0.003$ 15. $0.84 \underline{?} 0.840$

Order the numbers from least to greatest.

16. 0.90, 0.09, 0.99 17. 2.3, 2.12, 2.01 18. 4.5, 4.05, 4.55

3.4 Round the decimal as specified.

19. 13.2709 (nearest tenth) 20. 0.090909 (nearest hundredth)

Round the decimal to the place value of the leading digit. (1st non-zero digit)

21. 0.7004 22. 0.06111 23. 0.0089 24. 0.000192

3.5 Use rounding to estimate the sum or difference.

25. $3.9 - 2.1$ 26. $4.7 + 5.2$ 27. $6.7 + 12.4$ 28. $19.73 - 5.82$

Use front-end estimation to estimate the sum.

29. $13.89 + 8.72 + 9.45$ 30. $6.25 + 8.33 + 9.40$ 31. $7.30 + 2.50 + 3.80$

3.6 Find the sum or difference.

32. $3.8 + 9.2$ 33. $2.11 + 8.7$ 34. $13.2 - 4.7$ 35. $8.24 - 6.1$

Evaluate the expression when $x = 0.35$ and $y = 2.19$.

36. $x + 0.062$ 37. $2.1 + x$ 38. $8.5 - y$ 39. $y - x$

40. Tell which property is being illustrated: $1.8 + 6.3 = 6.3 + 1.8$.

Chapter 4

4.1 Find the product. Use estimation to check your answer.

1. 4×8.13 2. 27.5×6 3. 22×5.69 4. 3.897×14

4.2 Use the distributive property to find the product.

5. $6(8.2 + 3)$ 6. $6(20 - 3)$ 7. $7(29)$ 8. $8(4.8)$

4.3 Multiply. Use estimation to check that the product is reasonable.

9. 0.8×2.6 10. 9.2×0.36 11. 4.09×1.23 12. 0.005×2.1

4.4 Copy the answer and place the decimal point in the correct location.

13. $35.2 \div 11 = 32$ 14. $492.17 \div 7 = 7031$ 15. $29 \div 8 = 3625$

Divide. Round to the nearest tenth if necessary.

16. $9.9 \div 11$ 17. $13.5 \div 9$ 18. $21 \div 8$ 19. $4.2 \div 4$

4.5 Find the product or quotient using mental math.

20. 16.9×1000 21. 2.05×100 22. 40×0.01 23. 17.98×0.1
24. $0.008 \div 10$ 25. $935 \div 1000$ 26. $8.3 \div 0.01$ 27. $9.38 \div 0.1$

4.6 Divide. Round to the nearest tenth if necessary.

28. $0.9 \div 0.3$ 29. $4.2 \div 3.5$ 30. $50 \div 1.5$ 31. $39 \div 7.8$
32. $9.25 \div 0.4$ 33. $9.9 \div 0.03$ 34. $8.3 \div 0.41$ 35. $6.32 \div 7.4$

4.7 Choose an appropriate metric unit to measure the item.

36. mass of a marble
37. mass of a cat
38. capacity of a soup spoon
39. capacity of a water tank
40. mass of a facial tissue
41. capacity of a large can of paint

4.8 Copy and complete the statement.

42. $188 \text{ mg} = \underline{\quad?} \text{ g}$ 43. $480 \text{ L} = \underline{\quad?} \text{ mL}$ 44. $3.8 \text{ km} = \underline{\quad?} \text{ m}$
45. $67.4 \text{ kg} = \underline{\quad?} \text{ g}$ 46. $25 \text{ mL} = \underline{\quad?} \text{ L}$ 47. $100 \text{ cm} = \underline{\quad?} \text{ mm}$

Copy and complete the statement with $<$, $>$, or $=$.

48. $212 \text{ m} \underline{\quad?} 0.1 \text{ km}$ 49. $4.9 \text{ mm} \underline{\quad?} 5 \text{ cm}$ 50. $0.025 \text{ L} \underline{\quad?} 249 \text{ mL}$
51. $1.6 \text{ kL} \underline{\quad?} 160,000 \text{ mL}$ 52. $980 \text{ g} \underline{\quad?} 0.98 \text{ kg}$ 53. $3800 \text{ mg} \underline{\quad?} 4.9 \text{ g}$

Chapter 5

5.1 Test the number for divisibility by 2, 3, 5, 6, 9, and 10.

1. 406 2. 721 3. 534 4. 1557 5. 510

Tell whether the number is *prime*, *composite*, or *neither*.

6. 13 7. 8 8. 25 9. 1 10. 71

Write the prime factorization of the number. (*factor tree method*)

11. 95 12. 330 13. 76 14. 400 15. 175

5.2 Find the GCF of the numbers. (*Clark method*)

16. 15, 21 17. 8, 20 18. 16, 24 19. 25, 50, 70

5.3 Write two fractions that are equivalent to the given fraction.

20. $\frac{1}{4}$ 21. $\frac{2}{5}$ 22. $\frac{5}{6}$ 23. $\frac{3}{10}$ 24. $\frac{4}{7}$

Tell whether the fraction is in simplest form. If not, simplify it.

25. $\frac{5}{9}$ 26. $\frac{18}{27}$ 27. $\frac{3}{42}$ 28. $\frac{17}{20}$ 29. $\frac{12}{15}$

5.4 Find the LCM of the numbers. (*Clark method*)

30. 3, 9 31. 8, 12 32. 20, 30 33. 4, 8, 10

5.5 Order the fractions from least to greatest.

34. $\frac{1}{2}, \frac{2}{5}, \frac{3}{8}$ 35. $\frac{13}{15}, \frac{9}{10}, \frac{4}{5}$ 36. $\frac{7}{12}, \frac{2}{3}, \frac{5}{9}, \frac{11}{18}$ 37. $\frac{2}{5}, \frac{4}{15}, \frac{3}{20}, \frac{2}{9}$

5.6 Rewrite the number as an improper fraction or mixed number.

38. $1\frac{3}{4}$ 39. $3\frac{8}{9}$ 40. $5\frac{3}{10}$ 41. $2\frac{3}{7}$ 42. $1\frac{6}{11}$
43. $\frac{13}{6}$ 44. $\frac{21}{4}$ 45. $\frac{17}{5}$ 46. $\frac{20}{3}$ 47. $\frac{19}{12}$

Order the numbers from least to greatest.

48. $2\frac{1}{2}, \frac{19}{16}, \frac{35}{12}$ 49. $2\frac{1}{4}, \frac{17}{8}, 2\frac{1}{3}, \frac{55}{24}$ 50. $\frac{13}{8}, 1\frac{2}{5}, \frac{7}{4}, 2$

5.7 Write the decimal as a fraction or mixed number in simplest form.

51. 0.95 52. 3.8 53. 2.08 54. 6.09 55. 0.645

5.8 Write the fraction or mixed number as a decimal.

56. $\frac{5}{8}$ 57. $\frac{7}{4}$ 58. $\frac{8}{15}$ 59. $5\frac{1}{6}$ 60. $\frac{57}{40}$

Chapter 6

6.1 Estimate the sum or difference.

1. $\frac{15}{16} - \frac{5}{8}$

2. $\frac{1}{8} + \frac{5}{6}$

3. $\frac{7}{12} - \frac{8}{15}$

4. $\frac{5}{12} + \frac{3}{5}$

5. $7\frac{1}{8} - 2\frac{5}{6}$

6. $1\frac{2}{3} + 2\frac{7}{9}$

7. $5\frac{8}{15} + 3\frac{5}{12}$

8. $6\frac{2}{9} - 1\frac{6}{7}$

6.2 Find the sum or difference.

9. $\frac{5}{8} + \frac{1}{8}$

10. $\frac{7}{12} + \frac{5}{12}$

11. $\frac{8}{15} - \frac{4}{15}$

12. $\frac{5}{9} - \frac{4}{9}$

13. $\frac{17}{20} - \frac{9}{20}$

14. $\frac{2}{11} + \frac{7}{11}$

15. $\frac{7}{10} - \frac{3}{10}$

16. $\frac{5}{14} + \frac{3}{14}$

6.3 Find the sum or difference.

17. $\frac{5}{9} - \frac{1}{6}$

18. $\frac{2}{3} - \frac{1}{2}$

19. $\frac{11}{16} + \frac{1}{4}$

20. $\frac{2}{7} + \frac{2}{3}$

21. $\frac{11}{15} - \frac{1}{10}$

22. $\frac{6}{12} + \frac{1}{3}$

23. $\frac{7}{20} + \frac{3}{5}$

24. $\frac{9}{16} - \frac{1}{8}$

6.4 Find the sum or difference.

25. $6\frac{5}{6} - 4\frac{1}{6}$

26. $2\frac{5}{12} + 4\frac{2}{3}$

27. $3\frac{1}{2} + 12\frac{3}{4}$

28. $9\frac{2}{3} - 1\frac{3}{8}$

29. $1\frac{5}{14} + 6\frac{3}{14}$

30. $12\frac{1}{2} - 3\frac{1}{5}$

31. $3\frac{7}{8} - 3\frac{3}{4}$

32. $2\frac{5}{9} + 4\frac{1}{6}$

6.5 Find the difference.

33. $3\frac{2}{13} - 1\frac{9}{13}$

34. $8\frac{3}{4} - 6\frac{4}{5}$

35. $2\frac{3}{8} - \frac{5}{8}$

36. $4 - 2\frac{3}{4}$

37. $4\frac{1}{10} - 3\frac{1}{2}$

38. $4\frac{1}{6} - 1\frac{2}{3}$

39. $9 - 6\frac{4}{5}$

40. $5\frac{2}{3} - 4\frac{3}{4}$

6.6 Add or subtract the measures of time. (Re-group if needed!)

41.
$$\begin{array}{r} 6 \text{ h } 15 \text{ min} \\ - 2 \text{ h } 40 \text{ min} \\ \hline \end{array}$$

42.
$$\begin{array}{r} 45 \text{ min} \\ + 4 \text{ h } 25 \text{ min} \\ \hline \end{array}$$

43.
$$\begin{array}{r} 1 \text{ h } 24 \text{ min } 38 \text{ sec} \\ + 56 \text{ min } 12 \text{ sec} \\ \hline \end{array}$$

44.
$$\begin{array}{r} 4 \text{ h } 17 \text{ min} \\ - 38 \text{ min} \\ \hline \end{array}$$

45.
$$\begin{array}{r} 5 \text{ h } 28 \text{ min} \\ + 1 \text{ h } 47 \text{ min} \\ \hline \end{array}$$

46.
$$\begin{array}{r} 3 \text{ h } 4 \text{ min } 12 \text{ sec} \\ + 2 \text{ h } 17 \text{ min } 35 \text{ sec} \\ \hline \end{array}$$

Find the elapsed time.

47. 6:00 A.M. to 8:30 A.M.

48. 9:00 A.M. to 3:15 P.M.

49. 6:30 P.M. to 12:15 A.M.

50. 7:30 A.M. to 9:10 P.M.

51. 3:40 P.M. to 5:15 P.M.

52. 11:40 P.M. to 2:30 A.M.

53. You went on a hike with a group of friends from 8:15 A.M. to 4:30 P.M.
How long were you hiking?

Chapter 7

7.1 Use compatible numbers to estimate the product.

ex. $33 \times \frac{7}{8} \approx 28$

1. $25 \times \frac{3}{8}$

2. $10 \times \frac{1}{3}$

3. $\frac{9}{10} \times 32$

4. $\frac{5}{7} \times 34$

Find the product.

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

6. $6 \times \frac{5}{8}$

7. $\frac{4}{7} \times 28$

8. $\frac{2}{3} \times 7$

7.2 Find the product.

9. $\frac{5}{3} \times \frac{3}{4}$

10. $\frac{7}{12} \times \frac{8}{9}$

11. $\frac{1}{3} \times \frac{2}{9}$

12. $\frac{4}{9} \times \frac{3}{8} \times \frac{2}{3}$

7.3 Find the product.

13. $4 \times 1\frac{5}{6}$

14. $\frac{2}{5} \times 3\frac{2}{5}$

15. $1\frac{3}{4} \times \frac{2}{3}$

16. $2\frac{1}{4} \times 1\frac{1}{3}$

7.4 Find the quotient.

17. $\frac{5}{6} \div 4$

18. $1 \div \frac{5}{12}$

19. $\frac{1}{5} \div \frac{5}{4}$

20. $\frac{2}{3} \div \frac{1}{9}$

7.5 Find the quotient.

21. $2\frac{1}{4} \div \frac{3}{4}$

22. $\frac{7}{8} \div 1\frac{1}{2}$

23. $1\frac{4}{5} \div 4$

24. $12 \div 1\frac{1}{2}$

25. $3\frac{1}{2} \div 1\frac{1}{5}$

26. $5\frac{2}{5} \div 1\frac{1}{8}$

27. $6 \div 2\frac{2}{5}$

28. $3\frac{3}{4} \div 6\frac{1}{2}$

Solve the problem. Explain why you chose the operation you used.

29. You buy 10 yards of fabric to make some costumes. If each costume needs $3\frac{5}{8}$ yards of fabric, do you have enough fabric to make 3 costumes?

30. Amy is $1\frac{1}{3}$ feet taller than Frank. Frank is $4\frac{1}{4}$ feet tall. How tall is Amy?

7.6 Copy and complete the statement using an appropriate customary unit.

31. weight of a horse = 850 ?

32. capacity of a washing machine = 19 ?

33. weight of a jar of jam = 10 ?

34. capacity of a can of soup = 12 ?

7.7 Copy and complete the statement.

35. 3 gal 2 qt = ? qt

36. 2 yd 6 in. = ? in.

37. 25 oz = ? lb ? oz, or ? lb

Change the measurement to the specified unit.

38. $3\frac{1}{4}$ cups to fluid ounces

39. $1\frac{1}{8}$ tons to pounds

40. 9 pints to gallons

Find the sum or difference.

41. 3 lb 6 oz + 2 lb 10 oz

42. 3 ft 5 in. - 1 ft 9 in.

43. 1 yd 2 ft + 2 yd 2 ft

Chapter 8

8.1 Write the ratio in simplest form.

1. 12 : 18

2. 6 to 3

3. 2 : 10

4. 5 to 20

5. 16 : 12

Copy and complete the statement.

6. $\frac{3}{8} = \frac{9}{?}$

7. $\frac{10}{?} = \frac{1}{2}$

8. $\frac{?}{12} = \frac{7}{6}$

9. $\frac{3}{5} = \frac{?}{15}$

8.2 Copy and complete the statement.

10. $\frac{\$5}{2 \text{ items}} = \frac{?}{12 \text{ items}}$

11. $\frac{38 \text{ cm}}{30 \text{ min}} = \frac{?}{15 \text{ min}}$

12. $\frac{?}{3 \text{ classes}} = \frac{25 \text{ students}}{1 \text{ class}}$

Write the unit rate.

13. $\frac{2750 \text{ visitors}}{10 \text{ hours}}$

14. $\frac{90 \text{ meters}}{18 \text{ seconds}}$

15. $\frac{5000 \text{ words}}{25 \text{ pages}}$

16. $\frac{40,000 \text{ bits}}{5 \text{ minutes}}$

8.3 Solve the proportion.

17. $\frac{81}{6} = \frac{27}{r}$

18. $\frac{16}{x} = \frac{40}{25}$

19. $\frac{8}{20} = \frac{b}{28}$

20. $\frac{a}{51} = \frac{10}{15}$

8.4 A scale drawing of a room has a scale of 1 in. : 8 ft. In the drawing, the floor of the room is 2.5 inches long by 2 inches wide.

21. What are the actual dimensions of the floor of the room?

22. What is the ratio of the floor area of the room in the drawing to the floor area of the actual room?

8.5 Write the percent as a decimal and a fraction.

23. 18%

24. 69%

25. 2.5%

26. 45%

8.6 Write the fraction or decimal as a percent. ($\%$)

27. $\frac{17}{20}$

28. $\frac{3}{8}$

29. 0.83

30. 0.9

31. 0.005

Order the numbers from least to greatest. (change all to decimals first)

32. 0.24, $\frac{7}{25}$, $\frac{1}{4}$, 23%

33. 67%, $\frac{5}{6}$, 0.76, $\frac{2}{3}$

34. 0.2, $\frac{3}{20}$, 14%, 0.018

8.7 Find the percent of the number. (Part of the number)

35. 20% of 90

36. 8% of 4

37. 16% of 350

38. $33\frac{1}{3}\%$ of 150
used fraction

39. A bank account pays 4% annual interest. How much simple interest will \$2000 earn 6 years?

40. You want to buy a sweater that costs \$18.50. The sales tax is 5%. You realize that you have only \$20 with you. Can you buy the sweater?