Name: _____
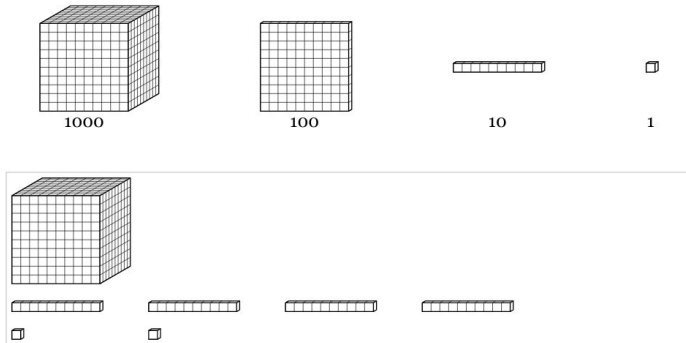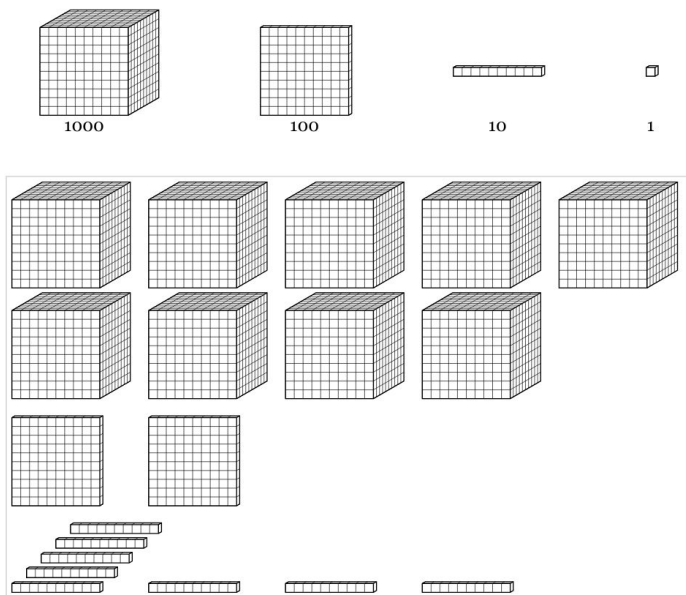
Please write your thinking on a sheet of paper to turn in on the first day of school.

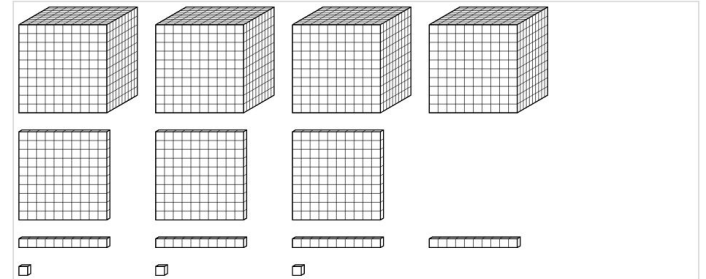**1.** What number is represented by the base ten blocks shown below?

| 1000 | 100 | 10 | 1 |

2. What number is represented by the base ten blocks shown below?

| 1000 | 100 | 10 | 1 |

3. What number is represented by the base ten blocks shown below?
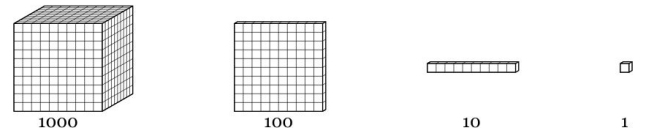
| 1000 | 100 | 10 | 1 |
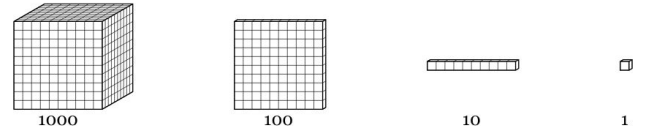
4. What number is represented by the base ten blocks shown below?

| 1000 | 100 | 10 | 1 |
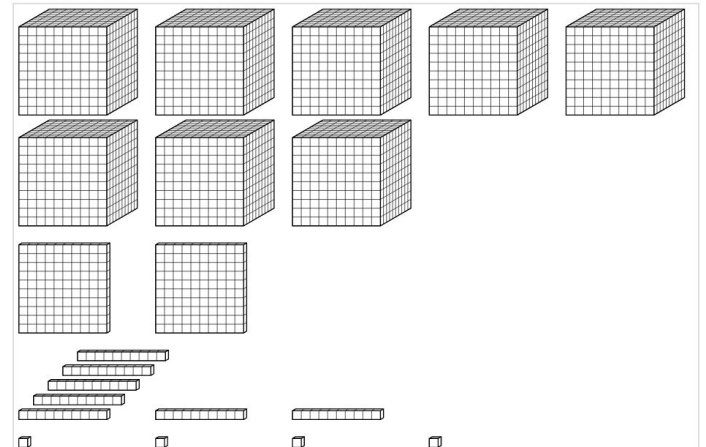
5. What number is represented by the base ten blocks shown below?

| 1000 | 100 | 10 | 1 |
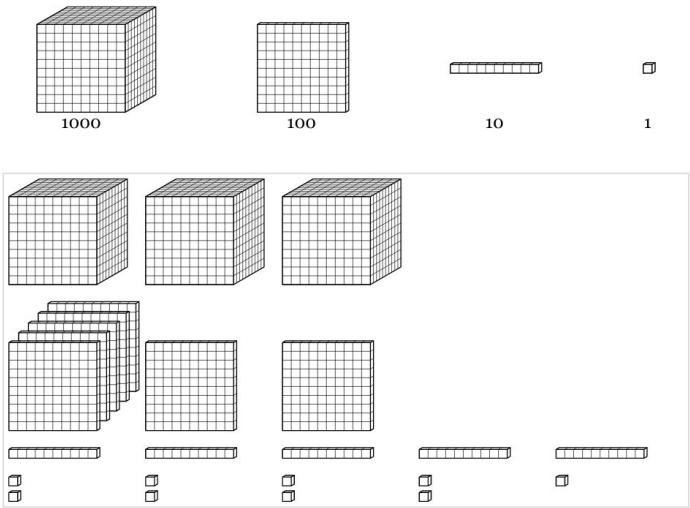
6. Evaluate: 7700×10

7. Evaluate: $53000 \div 10$

8. Evaluate: 2500×10

9. Evaluate: 2600×10

10. Evaluate: 1400×10

11. Evaluate: $940 \div 10$

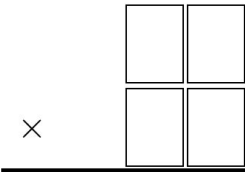**12.** Evaluate: 24×10

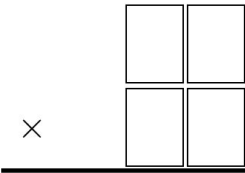**13.** Evaluate: 13×10

14. Evaluate: 9×10

15. Evaluate: 68×10

16. Complete the standard multiplication algorithm for 97×93, including any "carried," or regrouped digits, if necessary.

17. Complete the standard multiplication algorithm for 23×45, including any "carried," or regrouped digits, if necessary.

18. Complete the standard multiplication algorithm for 39×54, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
\boxed{}\boxed{} \\
\times \quad \boxed{}\boxed{} \\
\hline
\end{array}
$$

19. Complete the standard multiplication algorithm for 67×45, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
\boxed{}\boxed{} \\
\times \quad \boxed{}\boxed{} \\
\hline
\end{array}
$$

20. Complete the standard multiplication algorithm for 45×57, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
\boxed{}\boxed{} \\
\times \quad \boxed{}\boxed{} \\
\hline
\end{array}
$$

21. Complete the standard multiplication algorithm for 854×549, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
\boxed{}\boxed{}\boxed{} \\
\times \quad \boxed{}\boxed{}\boxed{} \\
\hline
\end{array}
$$

22. Complete the standard multiplication algorithm for 376×527, including any "carried," or regrouped digits, if necessary.

$$\times \quad \boxed{}\boxed{}\boxed{}$$
$$\boxed{}\boxed{}\boxed{}$$

24. Complete the standard multiplication algorithm for 738×273, including any "carried," or regrouped digits, if necessary.

$$\times \quad \boxed{}\boxed{}\boxed{}$$
$$\boxed{}\boxed{}\boxed{}$$

23. Complete the standard multiplication algorithm for 302×567, including any "carried," or regrouped digits, if necessary.

$$\times \quad \boxed{}\boxed{}\boxed{}$$
$$\boxed{}\boxed{}\boxed{}$$

25. Complete the standard multiplication algorithm for 962×684, including any "carried," or regrouped digits, if necessary.

$$\times \quad \boxed{}\boxed{}\boxed{}$$
$$\boxed{}\boxed{}\boxed{}$$

26. What is the least common multiple of 5, 9, and 15?

27. What is the least common multiple of 8 and 12?

28. What is the least common multiple of 3, 5, and 10?

29. What is the least common multiple of 2, 3, and 15?

30. What is the least common multiple of 4, 10, and 15?

31. Scale the numerator and the denominator down by a factor of 3 (divide) to write a fraction equivalent to $\frac{9}{27}$.

32. Scale the numerator and the denominator up by a factor of 8 (multiply) to write a fraction equivalent to $\frac{7}{10}$.

33. Scale the numerator and the denominator up by a factor of 3 (multiply) to write a fraction equivalent to $\frac{1}{2}$.

34. Scale the numerator and the denominator up by a factor of 11 (multiply) to write a fraction equivalent to $\frac{3}{5}$.

35. Scale the numerator and the denominator down by a factor of 2 (divide) to write a fraction equivalent to $\frac{16}{18}$.

36. Without dividing, determine if $68,750$ is divisible by 6 and explain how you know.

37. Without dividing, determine if $98,129$ is divisible by 4 and explain how you know.

38. Without dividing, determine if $94,645$ is divisible by 2 and explain how you know.

39. Without dividing, determine if $44,120$ is divisible by 3 and explain how you know.

40. Without dividing, determine if $27,567$ is divisible by 9 and explain how you know.

**41.** What is the greatest common factor of 25, 35, and 50?

42. What is the greatest common factor of 10 and 5?

**43.** What is the greatest common factor of 44, 40, and 20?

44. What is the greatest common factor of 45 and 27?

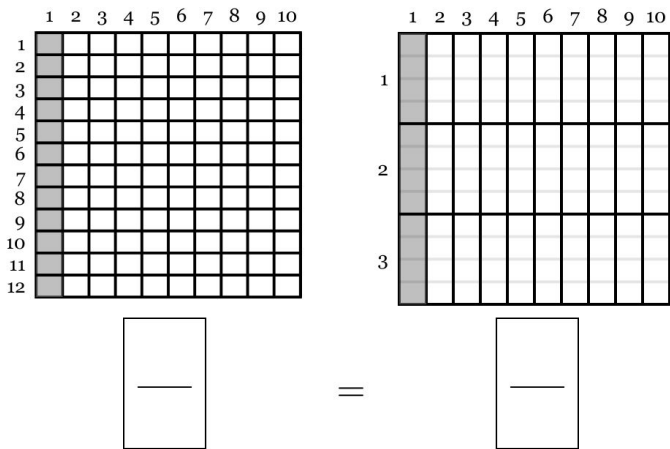**45.** What is the greatest common factor of 20 and 25?

46. The squares below each represent a unit or a whole. For each, write in the box below the fraction represented by the shaded area.
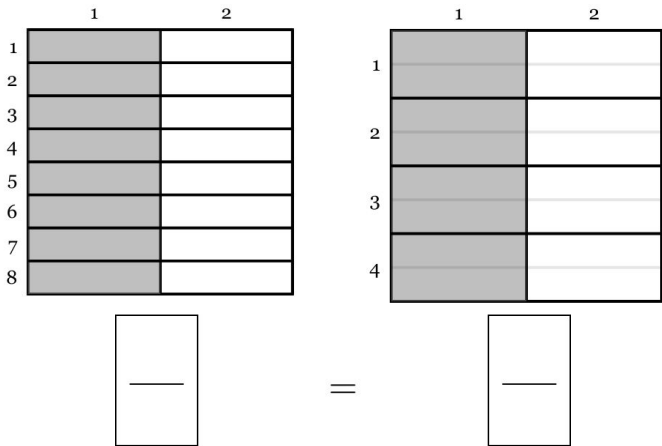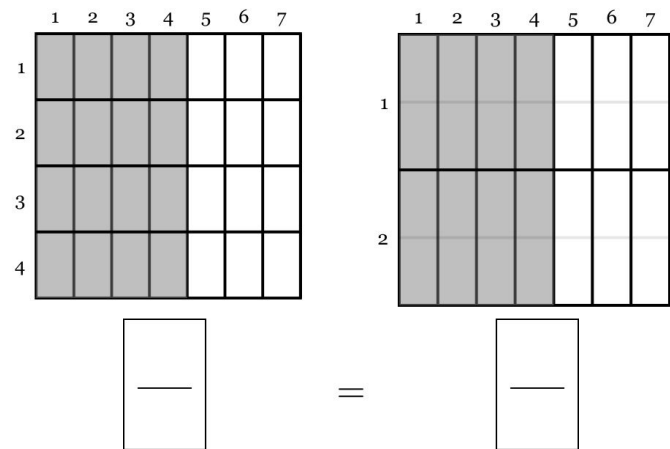
47. The squares below each represent a unit or a whole. For each, write in the box below the fraction represented by the shaded area.

$$\boxed{} \;=\; \boxed{}$$
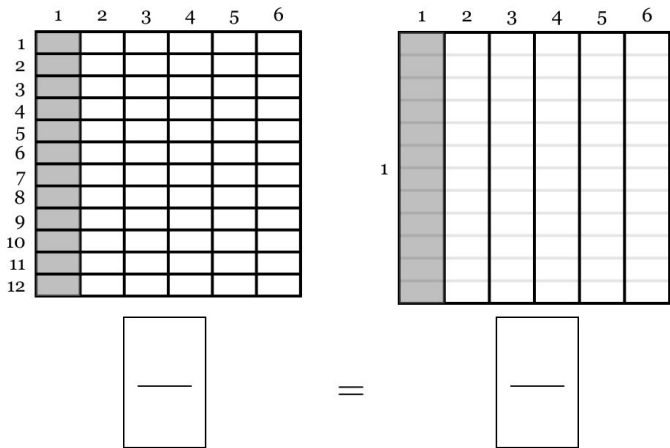
48. The squares below each represent a unit or a whole. For each, write in the box below the fraction represented by the shaded area.

$$\boxed{} \;=\; \boxed{}$$

49. The squares below each represent a unit or a whole. For each, write in the box below the fraction represented by the shaded area.

$$\boxed{} \;=\; \boxed{}$$

50. The squares below each represent a unit or a whole. For each, write in the box below the fraction represented by the shaded area.

$$\boxed{} \;=\; \boxed{}$$
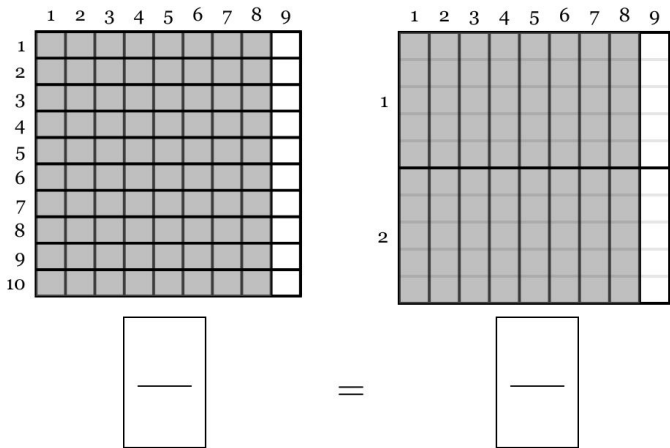
51. Simplify: $\dfrac{4}{18}$

52. Simplify: $\dfrac{36}{70}$

53. Simplify: $\dfrac{28}{44}$

54. Simplify: $\dfrac{44}{99}$

55. Simplify: $\dfrac{16}{66}$

56. Convert $\frac{7}{3}$ into a mixed number.

57. Convert $4\frac{3}{7}$ into an improper fraction.

58. Convert $\frac{55}{7}$ into a mixed number.

59. Convert $1\frac{3}{5}$ into an improper fraction.

60. Convert $\frac{61}{7}$ into a mixed number.

61. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.
$$\frac{3}{20} - \frac{1}{8}$$

62. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.
$$\frac{5}{9} + \frac{3}{10}$$

63. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.
$$\frac{7}{8} - \frac{27}{32}$$

64. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.
$$\frac{13}{17} - \frac{9}{17}$$

65. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.

$$\frac{1}{3} + \frac{2}{9}$$

66. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$\frac{3}{2} \div \frac{5}{2}$$

67. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

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

68. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$\frac{5}{9} \div 8$$

69. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$\frac{5}{3} \times \frac{2}{7}$$

70. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$\frac{1}{5} \times \frac{10}{7}$$

71. State your answer as a mixed number in simplest form:

$$5\frac{7}{10} \times \frac{1}{4}$$

72. State your answer as a mixed number in simplest form:

$$1\frac{3}{5} \div \frac{4}{9}$$

73. State your answer as a mixed number in simplest form:

$$3\frac{1}{7} \div \frac{1}{3}$$

74. State your answer as a mixed number in simplest form:

$$5\frac{9}{10} \times \frac{1}{2}$$

75. State your answer as a mixed number in simplest form:

$$6\frac{1}{2} \times \frac{4}{7}$$

76. Use the number line to determine which fraction is larger: $\frac{7}{8}$ or $\frac{4}{5}$. The segment from 0 to 1 has been partitioned into 40 pieces, the smallest number needed to plot both fractions. (a) Plot a fraction equivalent to $\frac{7}{8}$. (b) Plot a fraction equivalent to $\frac{4}{5}$. (c) Complete the sentence below.
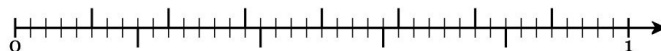

$\frac{7}{8}$ is $\left(\begin{array}{c}\text{greater}\\\text{less}\end{array}\right)$ than $\frac{4}{5}$ because $\frac{7}{8} = \dfrac{\boxed{}}{40}$ and

$\frac{4}{5} = \dfrac{\boxed{}}{40}$

77. Use the number line to determine which fraction is larger: $\frac{4}{5}$ or $\frac{7}{8}$. The segment from 0 to 1 has been partitioned into 40 pieces, the smallest number needed to plot both fractions. (a) Plot a fraction equivalent to $\frac{4}{5}$. (b) Plot a fraction equivalent to $\frac{7}{8}$. (c) Complete the sentence below.
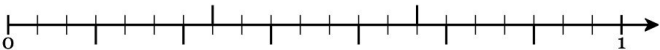

$\frac{4}{5}$ is $\left(\begin{array}{c}\text{greater}\\\text{less}\end{array}\right)$ than $\frac{7}{8}$ because $\frac{4}{5} = \dfrac{\boxed{}}{40}$ and

$\frac{7}{8} = \dfrac{\boxed{}}{40}$

78. Use the number line to determine which fraction is larger: $\frac{3}{7}$ or $\frac{1}{4}$. The segment from 0 to 1 has been partitioned into 28 pieces, the smallest number needed to plot both fractions. (a) Plot a fraction equivalent to $\frac{3}{7}$. (b) Plot a fraction equivalent to $\frac{1}{4}$. (c) Complete the sentence below.

$\frac{3}{7}$ is $\left(\begin{array}{c}\text{greater}\\\text{less}\end{array}\right)$ than $\frac{1}{4}$ because $\frac{3}{7} = \frac{\boxed{}}{28}$ and
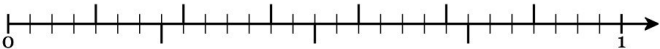
$\frac{1}{4} = \frac{\boxed{}}{28}$

79. Use the number line to determine which fraction is larger: $\frac{2}{3}$ or $\frac{6}{7}$. The segment from 0 to 1 has been partitioned into 21 pieces, the smallest number needed to plot both fractions. (a) Plot a fraction equivalent to $\frac{2}{3}$. (b) Plot a fraction equivalent to $\frac{6}{7}$. (c) Complete the sentence below.
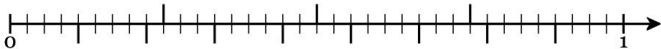

$\frac{2}{3}$ is $\left(\begin{array}{c}\text{greater}\\\text{less}\end{array}\right)$ than $\frac{6}{7}$ because $\frac{2}{3} = \frac{\boxed{}}{21}$ and

$\frac{6}{7} = \frac{\boxed{}}{21}$

80. Use the number line to determine which fraction is larger: $\frac{3}{4}$ or $\frac{7}{9}$. The segment from 0 to 1 has been partitioned into 36 pieces, the smallest number needed to plot both fractions. (a) Plot a fraction equivalent to $\frac{3}{4}$. (b) Plot a fraction equivalent to $\frac{7}{9}$. (c) Complete the sentence below.

$\frac{3}{4}$ is $\left(\begin{array}{c}\text{greater}\\\text{less}\end{array}\right)$ than $\frac{7}{9}$ because $\frac{3}{4} = \frac{\boxed{}}{36}$ and

$\frac{7}{9} = \frac{\boxed{}}{36}$

81. Complete the standard algorithm for $4.2 + 8.4$, including any "carried," or regrouped digits, if necessary.

Note: you may have some boxes "left over." You can leave them empty or fill in "missing" 0's and/or decimal points.

82. Complete the standard algorithm for $7.8 + .57$, including any "carried," or regrouped digits, if necessary.

Note: you may have some boxes "left over." You can leave them empty or fill in "missing" 0's and/or decimal points.

83. Complete the standard algorithm for $52.0 + .14$, including any "carried," or regrouped digits, if necessary.

Note: you may have some boxes "left over." You can leave them empty or fill in "missing" 0's and/or decimal points.

84. Complete the standard algorithm for $0.69 + 0.42$, including any "carried," or regrouped digits, if necessary.

Note: you may have some boxes "left over." You can leave them empty or fill in "missing" 0's and/or decimal points.

85. Complete the standard algorithm for $45.0 + 9.4$, including any "carried," or regrouped digits, if necessary.

Note: you may have some boxes "left over." You can leave them empty or fill in "missing" 0's and/or decimal points.

86. Evaluate: 69.9×10

87. Evaluate: $915.19 \div 10$

88. Evaluate: $1096 \div 10$

89. Evaluate: $538 \div 10$

90. Evaluate: $1182.91 \div 10$

91. Fill in the guided sentence below to explain how $.02 \times 7$ relates to 2×7.

.02 is _____ of 2, so
    word bank 1

$.02 \times 7$ is _____ of 2×7.
      word bank 2

$2 \times 7 =$ _____ $.02 \times 7 =$ _____

This word bank also applies to questions 92 - 95.

Word bank 1: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

Word bank 2: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

92. Fill in the guided sentence below to explain how $.8 \times 3$ relates to 8×3.

.8 is _____ of 8, so
    word bank 1

$.8 \times 3$ is _____ of 8×3.
      word bank 2

$8 \times 3 =$ _____ $.8 \times 3 =$ _____

93. Fill in the guided sentence below to explain how $.5 \times 8$ relates to 5×8.

.5 is _____ of 5, so
    word bank 1

$.5 \times 8$ is _____ of 5×8.
      word bank 2

$5 \times 8 =$ _____ $.5 \times 8 =$ _____

94. Fill in the guided sentence below to explain how $.03 \times 4$ relates to 3×4.

.03 is _____ of 3, so
    word bank 1

$.03 \times 4$ is _____ of 3×4.
      word bank 2

$3 \times 4 =$ _____ $.03 \times 4 =$ _____

95. Fill in the guided sentence below to explain how $.003 \times 2$ relates to 3×2.

$.003$ is _____ of 3, so
_{word bank 1}

$.003 \times 2$ is _____ of 3×2.
_{word bank 2}

$3 \times 2 = $ _____ $.003 \times 2 = $ _____

96. Fill in the guided sentence below to explain how $.04 \times .9$ relates to 4×9.

$.04$ is _____ of 4, so
_{word bank 1}

$.04 \times 9$ is _____ of 4×9.
_{word bank 2}

$.9$ is _____ of 9, so
_{word bank 3}

$.04 \times .9$ is _____ of $.04 \times 9$.
_{word bank 4}

$4 \times 9 = $ _____ $.04 \times 9 = $ _____

$.04 \times .9 = $ _____

This word bank also applies to questions 97 - 100.

Word bank 1: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

Word bank 2: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

Word bank 3: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

Word bank 4: **(a)** one tenth, **(b)** one hundredth, **(c)** one thousandth

97. Fill in the guided sentence below to explain how $.2 \times .008$ relates to 2×8.

$.2$ is _____ of 2, so
_{word bank 1}

$.2 \times 8$ is _____ of 2×8.
_{word bank 2}

$.008$ is _____ of 8, so
_{word bank 3}

$.2 \times .008$ is _____ of $.2 \times 8$.
_{word bank 4}

$2 \times 8 = $ _____ $.2 \times 8 = $ _____

$.2 \times .008 = $ _____

98. Fill in the guided sentence below to explain how $.6 \times .009$ relates to 6×9.

$.6$ is _____ of 6, so
_{word bank 1}

$.6 \times 9$ is _____ of 6×9.
_{word bank 2}

$.009$ is _____ of 9, so
_{word bank 3}

$.6 \times .009$ is _____ of $.6 \times 9$.
_{word bank 4}

$6 \times 9 = $ _____ $.6 \times 9 = $ _____

$.6 \times .009 = $ _____

99. Fill in the guided sentence below to explain how $.2 \times .07$ relates to 2×7.

$.2$ is _____ of 2, so
_{word bank 1}

$.2 \times 7$ is _____ of 2×7.
_{word bank 2}

$.07$ is _____ of 7, so
_{word bank 3}

$.2 \times .07$ is _____ of $.2 \times 7$.
_{word bank 4}

$2 \times 7 = $ _____ $.2 \times 7 = $ _____

$.2 \times .07 = $ _____

100. Fill in the guided sentence below to explain how $.4 \times .8$ relates to 4×8.

$.4$ is _____ of 4, so
_{word bank 1}

$.4 \times 8$ is _____ of 4×8.
_{word bank 2}

$.8$ is _____ of 8, so
_{word bank 3}

$.4 \times .8$ is _____ of $.4 \times 8$.
_{word bank 4}

$4 \times 8 = $ _____ $.4 \times 8 = $ _____

$.4 \times .8 = $ _____

101. Complete the standard multiplication algorithm for 2.6×0.7, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
2\,.\,6 \\
\times\quad 0\,.\,7 \\
\hline
\end{array}
$$

102. Complete the standard multiplication algorithm for 6.8×0.05, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
6\,.\,8 \\
\times\quad 0\,.\,0\,5 \\
\hline
\end{array}
$$

103. Complete the standard multiplication algorithm for 9.9×8, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
9\,.\,9 \\
\times\quad 8 \\
\hline
\end{array}
$$

104. Complete the standard multiplication algorithm for 5.5×0.3, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
5\,.\,5 \\
\times\quad 0\,.\,3 \\
\hline
\end{array}
$$

105. Complete the standard multiplication algorithm for 9.4×0.04, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
9\,.\,4 \\
\times\quad 0\,.\,0\,4 \\
\hline
\end{array}
$$

106. Complete the standard multiplication algorithm for 8.6×5.2, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
8\,.\,6 \\
\times\quad 5\,.\,2 \\
\hline
\end{array}
$$

107. Complete the standard multiplication algorithm for 7.4×0.87, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
7\,.\,4 \\
\times\ 0\,.\,8\ 7 \\
\hline
\end{array}
$$

108. Complete the standard multiplication algorithm for 48×0.85, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
4\ 8 \\
\times\ 0\,.\,8\ 5 \\
\hline
\end{array}
$$

109. Complete the standard multiplication algorithm for 47×5.6, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
4\ 7 \\
\times\ \ 5\,.\,6 \\
\hline
\end{array}
$$

110. Complete the standard multiplication algorithm for 0.24×0.23, including any "carried," or regrouped digits, if necessary.

$$
\begin{array}{r}
0\,.\,2\ 4 \\
\times\ 0\,.\,2\ 3 \\
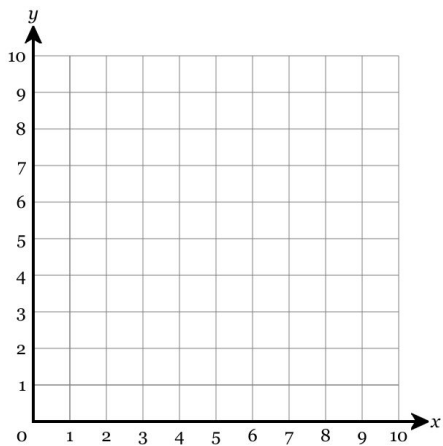\hline
\end{array}
$$

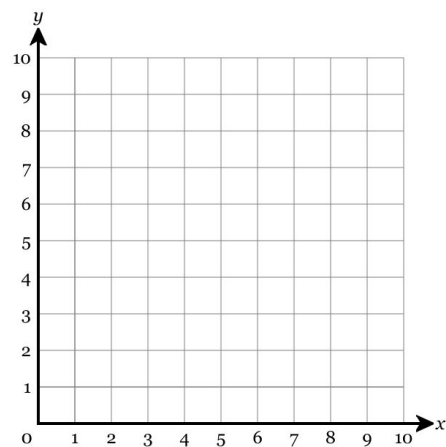**111.** Plot the point $(3, 5)$.
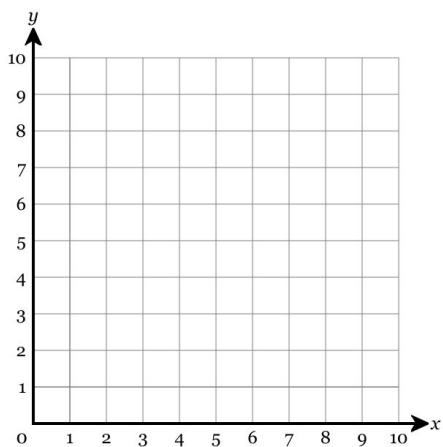
112. Plot the point $(5, 2)$.
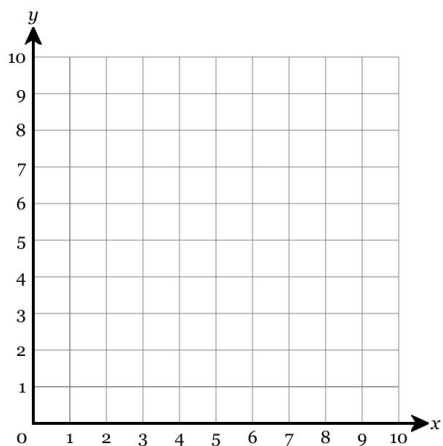
113. Plot the point $(4, 4)$.

114. Plot the point $(3, 10)$.

115. Plot the point $(10, 6)$.