

Key

Operations and Algebraic Thinking

Solve.

Show your work.

- 1 Simplify the expression shown below. **PEMDAS**

$$\frac{6 + (4 \div 2)}{6 + 2} = 8$$

- 2 Using numbers and symbols, write an expression for the phrase shown below.

subtract 3 from 5, then multiply by 2

$2(5-3)$ or $(5-3) \cdot 2$

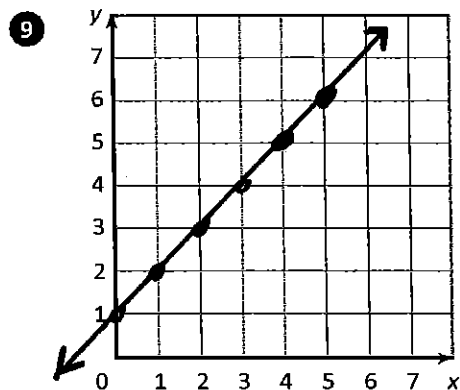
- 3 Write a phrase to represent the numerical expression shown below.

$$10 \times (6 - 1)$$

subtract 1 from 6, then multiply by 10

Complete the table. Then graph the relationship on the grid.

Rule: add 1	
x	y
0	1
1	4 <u>2</u>
5 <u>2</u>	3
3	6 <u>4</u>
7 <u>4</u>	5
5	8 <u>6</u>



Number and Operations in Base Ten

Perform the indicated operation.

10 700×10

$$\begin{array}{r} 700 \\ \times 10 \\ \hline 000 \\ + 7000 \\ \hline 7000 \end{array}$$

11 $26 \overline{)780}$

$$\begin{array}{r} 30 \\ 26 \overline{)780} \\ \underline{-78} \downarrow \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

12 73×508

$$\begin{array}{r} 73 \\ \times 508 \\ \hline 584 \\ 000 \\ + 36500 \\ \hline 37,084 \end{array}$$

13 $3 \overline{)9,324}$

$$\begin{array}{r} 3108 \\ 3 \overline{)9,324} \\ \underline{-9} \downarrow \\ 03 \\ \underline{-3} \downarrow \\ 024 \\ \underline{-24} \\ 0 \end{array}$$

14 32×45

$$\begin{array}{r} 32 \\ \times 45 \\ \hline 160 \\ + 1280 \\ \hline 1440 \end{array}$$

15 $10 \overline{)2,000}$

$$\begin{array}{r} 200 \\ 10 \overline{)2,000} \\ \underline{-20} \downarrow \\ 00 \\ \underline{-0} \downarrow \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

16 $3.6 - 1.92$

$$\begin{array}{r} 3.60 \\ - 1.92 \\ \hline 1.68 \end{array}$$

17 5.4×7.02

$$\begin{array}{r} 7.02 \\ \times 5.4 \\ \hline 2808 \\ + 35100 \\ \hline 37.908 \end{array}$$

18 $11.91 \div 3$

$$\begin{array}{r} 3.97 \\ 3 \overline{)11.91} \\ \underline{-9} \downarrow \\ 29 \\ \underline{-27} \downarrow \\ 21 \\ \underline{-21} \\ 0 \end{array}$$

19 $8.07 + 12.16$

$$\begin{array}{r} 8.07 \\ + 12.16 \\ \hline 20.23 \end{array}$$

Name _____

Date _____

Solve.

- 20 Compare. Write $<$, $>$, or $=$.

$$\begin{array}{r} \downarrow \quad \downarrow \\ \underline{\underline{6.301}} \quad \left(\right) \quad \underline{\underline{6.327}} \\ \downarrow \quad \downarrow \end{array}$$

- 21 Round $\underline{\underline{3.051}}$ to the nearest tenth

3.1

Write the value of the underlined digit.

- 22 43,197

3,000

- 23

8.025

0.02 or $\frac{2}{100}$

Number and Operations – Fractions

Perform the indicated operation.

Show your work.

$$24 \quad \frac{5}{6} + \frac{1}{6} = \frac{6}{6} = 1$$

$$25 \quad \frac{7}{8} - \frac{3}{8} = \frac{4}{8} = \frac{1}{2}$$

$$26 \quad \frac{1}{2} - \frac{2}{5} = \frac{1}{10}$$

$$27 \quad \frac{2}{3} + \frac{3}{4} = 1\frac{5}{12}$$

$$\frac{5}{10} - \frac{4}{10} = \frac{1}{10}$$

$$\frac{8}{12} + \frac{9}{12} = \frac{17}{12} = 1\frac{5}{12}$$

$$28 \quad 6 \cdot \frac{2}{3} = 4$$

$$29 \quad \frac{3}{4} \div 3 = \frac{1}{4}$$

$$30 \quad 8 \div \frac{1}{2} = 16$$

$$\frac{6}{1} \cdot \frac{2}{3} = \frac{12}{3} = 4$$

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

$$\frac{3}{4} \cdot \frac{1}{3} = \frac{3}{12} = \frac{1}{4}$$

$$\frac{8}{1} \div \frac{1}{2}$$

$$\frac{8}{1} \cdot \frac{2}{1} = \frac{16}{1}$$

Solve.

Show your work.

- 35 How many $\frac{1}{3}$ -cup servings can be poured from a pitcher that contains 6 cups of juice?

18 servings

$$6 \div \frac{1}{3} = \frac{6}{1} \div \frac{1}{3}$$

$$\frac{6}{1} \cdot \frac{3}{1} = \frac{18}{1} = 18$$

- 36 Suppose 6 volunteers want to equally share 50 hours of community service. How many hours should each person work?

$8\frac{1}{3}$ hours

$$50 \div 6$$

$$6 \overline{) 50} \begin{array}{r} 8 \\ -48 \\ \hline 2 \end{array} \frac{2}{6} = 8\frac{1}{3}$$

- 37 The measures of two sides of a rectangle are 5 cm and $\frac{9}{10}$ cm. What is the area of the rectangle?

$4\frac{1}{2}$ cm²



$$A = b \cdot h$$

$$A = 5 \cdot \frac{9}{10}$$

$$\frac{5}{1} \cdot \frac{9}{10} = \frac{45}{10} = \frac{45}{10} = 4\frac{5}{10} = 4\frac{1}{2}$$

- 38 Marissa swims for 2 hours every Monday. She swims for $\frac{3}{4}$ of that time every Thursday. Does Marissa swim for more or less time every Thursday? Explain your answer.

Thursday

$$\frac{3}{4} \text{ of } 2 \rightarrow \frac{3}{4} \cdot \frac{2}{1} = \frac{6}{4} = \frac{3}{2} = 1\frac{1}{2}$$

$$\frac{M}{2} > \frac{Th}{1\frac{1}{2}}$$

She swims less time on Thursdays because $1\frac{1}{2}$ hours is less than 2.

- 39 If you multiply 4 by $\frac{8}{2}$, will the product be greater or less than 4? Explain your answer.

$$\frac{4}{1} \cdot \frac{8}{2} = \frac{32}{2} = 16$$

greater than - multiplying a whole number by a fraction results in a greater product.

Solve.

Show your work.

- 31 At lunch, $\frac{1}{3}$ of the students ordered egg salad and $\frac{2}{5}$ of the students ordered tuna salad. What fraction of the students ordered egg salad or tuna salad?

$$\frac{1}{3} + \frac{2}{5} = \frac{5}{15} + \frac{6}{15} = \frac{11}{15}$$

$\frac{11}{15}$ of the students

- 32 Kevin ordered $\frac{1}{2}$ of a pizza. He ate $\frac{5}{12}$ of a pizza. What fraction of a pizza is left?

$$\frac{1}{2} - \frac{5}{12} = \frac{6}{12} - \frac{5}{12} = \frac{1}{12}$$

$\frac{1}{12}$ pizza

- 33 Yang has $2\frac{1}{4}$ pounds of apples. She needs $1\frac{1}{2}$ times as many apples to bake a pie. How many pounds of apples does Yang need?

$$2\frac{1}{4} \cdot 1\frac{1}{2} = \frac{9}{4} \cdot \frac{3}{2} = \frac{27}{8} = 3\frac{3}{8}$$

$3\frac{3}{8}$ pounds

- 34 A recipe for 12 muffins calls for $\frac{3}{4}$ cup of raisins. What amount of raisins would be needed to make only $\frac{1}{2}$ of the recipe?

$$\frac{1}{2} \text{ of } \frac{3}{4} = \frac{1}{2} \cdot \frac{3}{4} = \frac{3}{8}$$

$\frac{3}{8}$ cup raisins

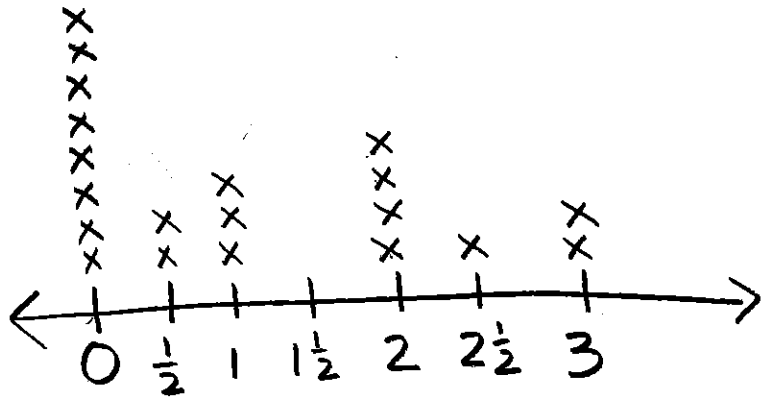
Measurement and Data

The table below shows the number of days the students in a class were absent during January.

Show your work.

Use the table for numbers 40 and 41.

Days Absent	Number of Students
0	8
$\frac{1}{2}$	2
1	3
$1\frac{1}{2}$	0
2	4
$2\frac{1}{2}$	1
3	2



- 40 Draw a line plot of the data at the right.

- 41 In simplest form, what fraction of the students in the class were not absent during January?

$$\frac{8}{20} = \frac{2}{5}$$

Solve.

- 42 In the standing jump competition, Jorge jumped 205 centimeters. What was the distance of Jorge's jump in meters?

$$2.05 \text{ m}$$

$$\frac{205 \text{ cm}}{1} \cdot \frac{1 \text{ m}}{100 \text{ cm}} = \frac{205}{100}$$

- 43 A football field is 360 feet in length. What is the length of the field in yards?

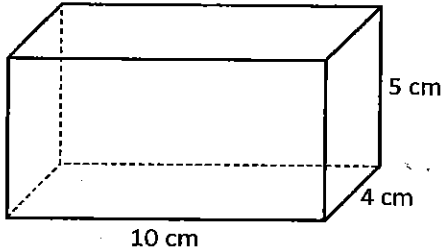
$$120 \text{ yards}$$

$$\frac{360 \text{ ft}}{1} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{360}{3} = 120$$

Solve.

Show your work.

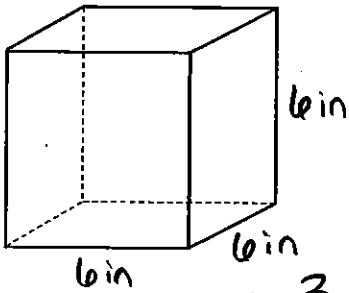
- 44 Calculate the volume of this rectangular prism.



$$\begin{aligned} V &= l \cdot w \cdot h \\ V &= 10 \cdot 4 \cdot 5 \\ V &= 10 \cdot 20 \\ V &= 200 \text{ cm}^3 \end{aligned}$$

$$\underline{200 \text{ cm}^3}$$

- 45 Each edge of a cube measures 6 inches.
Find the volume of the cube.

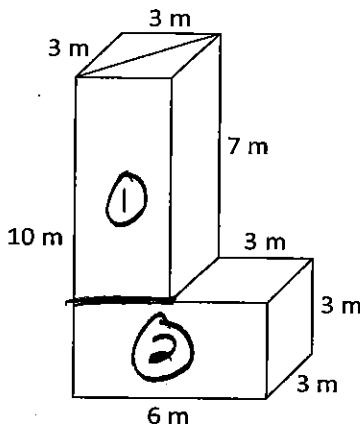


$$\begin{aligned} V &= l \cdot w \cdot h \\ V &= 6 \cdot 6 \cdot 6 \\ V &= 36 \cdot 6 \\ V &= 216 \text{ in}^3 \end{aligned}$$

$$\begin{array}{r} 36 \\ \times 6 \\ \hline 216 \end{array}$$

$$\underline{216 \text{ in}^3}$$

- 46 Calculate the volume of the prism below.



$$\begin{aligned} \textcircled{1} \quad V &= l \cdot w \cdot h \\ V &= 3 \cdot 3 \cdot 7 \\ V &= 9 \cdot 7 \\ V &= 63 \text{ m}^3 \end{aligned}$$

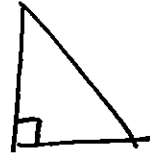
$$\begin{aligned} \textcircled{2} \quad V &= l \cdot w \cdot h \\ V &= 6 \cdot 3 \cdot 3 \\ V &= 6 \cdot 9 \\ V &= 54 \text{ m}^3 \end{aligned}$$

$$\begin{array}{r} 63 \\ + 54 \\ \hline 117 \text{ m}^3 \end{array}$$

$$\underline{117 \text{ m}^3}$$

Geometry

Solve.



Show your work.

- 47 How many right angles does a right triangle have?

1 right angle

- 48 Look at the descriptions listed below. Circle those that are true for the rectangle at the right.



opposite sides congruent

opposite sides parallel

opposite sides perpendicular

adjacent sides perpendicular

opposite angles congruent

90° angles

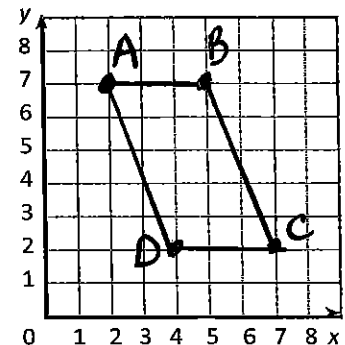
acute angles

obtuse angles

right angles

- 49 On the graph at the right, Plot Point A at (2, 7), Point B at (5, 7), Point C at (7, 2), and Point D at (4, 2).

Draw line segments to connect the points in the order they were plotted, and then draw a line segment from Point D to Point A.



What figure is formed by the line segments?

parallelogram

- 50 A model of a baseball field is shown on the coordinate plane. In the infield, there are four bases that form a square. Points A , B , and D each represent a base. What are the coordinates of Point C , the missing base?

Point C (6, 6)

