

The Four Operations

- a. 45
b. 409,344
- a. $x = 296,430$
b. $Y = 80$
c. $N = 3,304$
- Any of these are correct:
 $4Y = 600$ or $4 \times Y = 600$ or $Y + Y + Y + Y = 600$ or $600 \div 4 = Y$ or $600 \div Y = 4$ or $600 - Y - Y - Y - Y = 0$.
Solution: $Y = 150$.
- a. $42 \times 10 = (10 - 4) \times 70$
b. $143 = 13 \times (5 + 6)$
- $(\$19.95 - \$5) \times 5$ or $5 \times (\$19.95 - \$5)$. The total cost was \$74.75.
- No, it is not. Explanations vary. For example: It is an odd number, and therefore cannot be divisible by an even number.
 $991 \div 4 = 247 \text{ R}3$, leaving a remainder, so 991 is not divisible by 4.
- a. $26 = 2 \times 13$
b. $40 = 2 \times 2 \times 2 \times 5$
c. 59 is prime

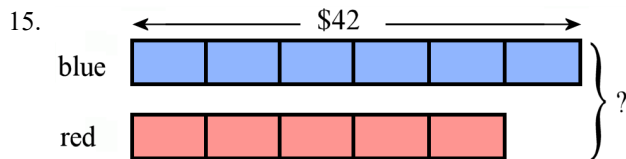
Large Numbers

- a. 70,016,090
b. 32,000,232,000
- It is about $32,000 \times 300 = 9,600,000$. Other estimates are also possible.
- 80 million or 80,000,000
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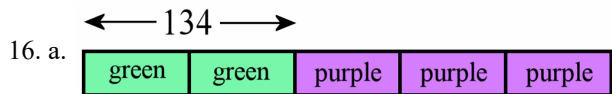
<i>number</i>	593,204	19,054,947
to the nearest 1,000	593,000	19,055,000
to the nearest 10,000	590,000	19,050,000
to the nearest 100,000	600,000	19,100,000
to the nearest million	1,000,000	19,000,000

Problem Solving

- An 8-ft long board is 96 inches. One-sixth of that is $96 \text{ in.} \div 6 = 16 \text{ in.}$ The remaining piece is 80 inches, or 6 ft 8 in.
- It would cost \$7.80 to download ten songs. First, find the price of one song download: $\$4.68 \div 6 = \0.78 . Then, multiply that by 10.
- Lunch in the cafeteria costs $\frac{1}{3}$ of \$36, or \$12. Mary spent $\$36 + 4 \times \$12 = \$84$ for lunch.



One block in the model is $\$42 \div 6 = \7 . The red swimsuit costs $5 \times \$7 = \35 . Together they cost $\$77$.



b. One block or part in the model is $134 \div 2 = 67$ marbles. There are $3 \times 67 = 201$ purple marbles.

17. a. The DVD costs about $\$30$. Karen pays $\frac{3}{5}$ of it, which is about $\$30 \div 5 \times 3 = \18 . Ann pays about $\$12$.

b. Karen pays $\$29.90 \div 5 \times 3 = \17.94 . Ann pays $\$11.96$.

Decimals

18. a. 0.289 b. 0.30 c. 0.305 d. 0.313

19. a. 0.95 b. 0.72 c. 0.62 d. 1.26 e. 1.05 f. 0.37

20. a. 0.08 b. 0.081 c. 5.21

21. a. $\frac{48}{1000}$ b. $1\frac{4}{1000}$ c. $7\frac{22}{100}$

22. a. $0.31 > 0.031$ b. $0.43 > 0.093$ c. $1.6 > 1.29$

23.

rounded to...	nearest one	nearest tenth	nearest hundredth
5.098	5	5.1	5.10

rounded to...	nearest one	nearest tenth	nearest hundredth
0.306	0	0.3	0.31

24.

a. $0.4 \times 7 = 2.8$	d. $10 \times 0.05 = 0.5$	g. $1.1 \times 0.3 = 0.33$
b. $0.4 \times 0.7 = 0.28$	e. $100 \times 0.05 = 5$	h. $70 \times 0.9 = 63$
c. $0.4 \times 700 = 280$	f. $1000 \times 0.5 = 500$	i. $20 \times 0.09 = 1.8$

25.

a. $0.36 \div 6 = 0.06$	c. $3 \div 100 = 0.03$	e. $16 \div 10 = 1.6$
b. $5.6 \div 7 = 0.8$	d. $0.7 \div 10 = 0.07$	f. $71 \div 100 = 0.71$

26.

a. 0.2 m = 20 cm 37 cm = 0.37 m 2.9 km = 2,900 m	b. 0.4 L = 400 ml 3.5 kg = 3,500 g 240 g = 0.24 kg	c. 56 oz = 3 lb 8 oz 74 in. = 6 ft 2 in. 15 C = 3 qt 3 C
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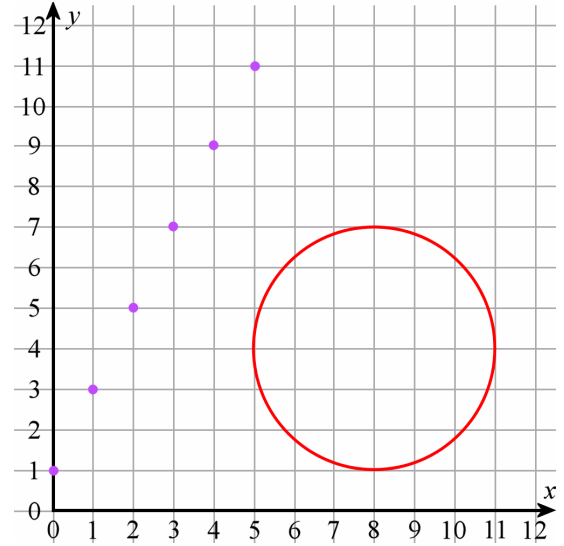
27. There are 444 milliliters in two bowls. Two liters is 2,000 ml. $2,000 \text{ ml} \div 9 = 222.2 \text{ ml}$ or about 222 ml.

28. a. 1.42 b. 14.28 c. 14.08

Graphs

29.

x	0	1	2	3	4	5
y	1	3	5	7	9	11

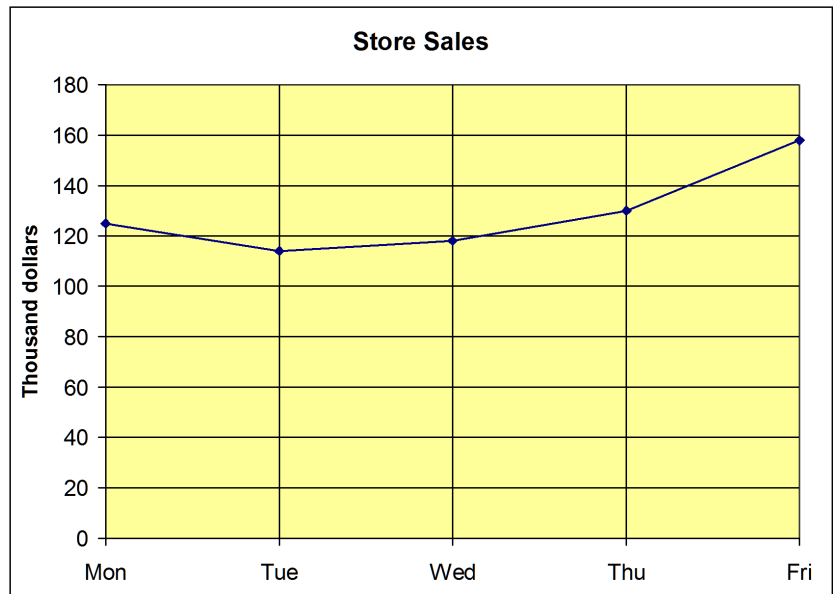


30. See the image on the right.

31.

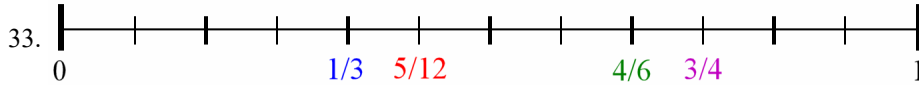
Day	Sales (1000 dollars)
Mon	125
Tue	114
Wed	118
Thu	130
Fri	158

- See the line graph on the right.
- The average daily sales is \$129,000.



Fractions

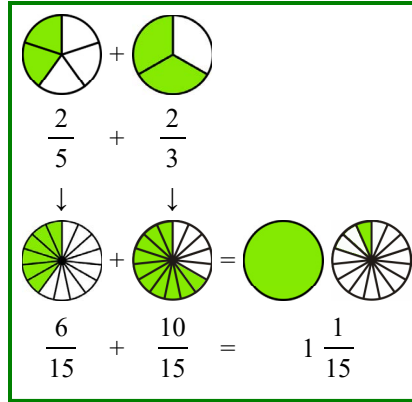
32. a. $6 \frac{1}{3}$
 b. $2 \frac{1}{3}$
 c. $13 \frac{4}{5}$



34.

a. $\frac{5}{6} = \frac{\quad}{20}$	b. $\frac{2}{7} = \frac{8}{28}$	c. $\frac{3}{8} = \frac{15}{40}$	d. $\frac{2}{9} = \frac{6}{27}$
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35. Mia found the common denominator (15) correctly, but forgot that the 2 fifths and the 2 thirds do not stay as 2 fifteenths in the conversion.



36. a. $1 \frac{1}{6}$
 b. $\frac{7}{15}$
 c. $5 \frac{5}{8}$
 d. $10 \frac{5}{18}$

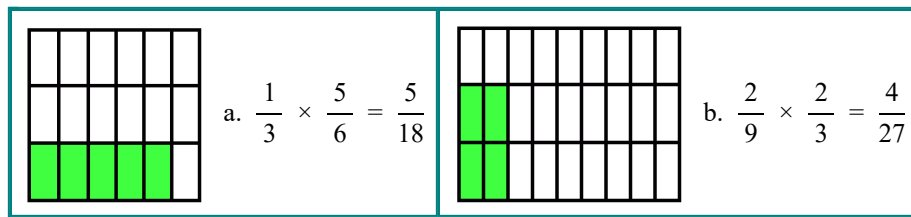
37. You would need $3 \times (2 \frac{3}{4}) = 8 \frac{1}{4}$ cups of flour to make three batches of rolls.

38. a. $\frac{6}{9} > \frac{6}{13}$ b. $\frac{6}{13} < \frac{1}{2}$ c. $\frac{5}{10} > \frac{48}{100}$ d. $\frac{1}{4} = \frac{25}{100}$ e. $\frac{5}{7} > \frac{7}{10}$

39. a. $1 \frac{2}{5}$
 b. cannot be simplified
 c. $\frac{7}{8}$

40. Yes, it is correct. $(\frac{2}{3}) \times (\frac{1}{2}) = \frac{1}{3}$.

41.



42. You can cut 60 pieces: $15 \text{ ft} \div (\frac{1}{4} \text{ ft}) = 60$.

43. $\frac{1}{6}$ of the pizza. $(\frac{1}{2}) \div 3 = \frac{1}{6}$

44. a. $10 \frac{1}{2}$
 b. $\frac{1}{21}$
 c. $2 \frac{14}{15}$
 d. 18

Geometry

45. Answers may vary. If you printed the test yourself, your printer may have scaled the document to fit, instead of printing it at 100%. Please check the measurements the student has given as his or her answer. Two possible sets of answers are:

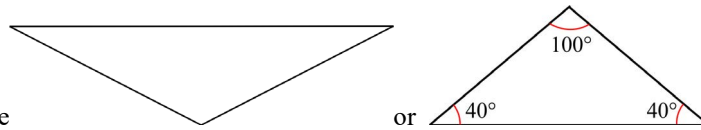
(Printed at 100%) The sides measure $3 \frac{1}{8}$ in, $2 \frac{11}{16}$ in, and $5 \frac{1}{4}$ in. The perimeter is $11 \frac{1}{16}$ in.

(Print to fit) The sides measure $2 \frac{15}{16}$ in, $2 \frac{9}{16}$ in, and $4 \frac{15}{16}$ in. The perimeter is $10 \frac{7}{16}$ in.

46. a. an isosceles acute triangle
b. a rhombus
c. a right scalene triangle
d. a trapezoid

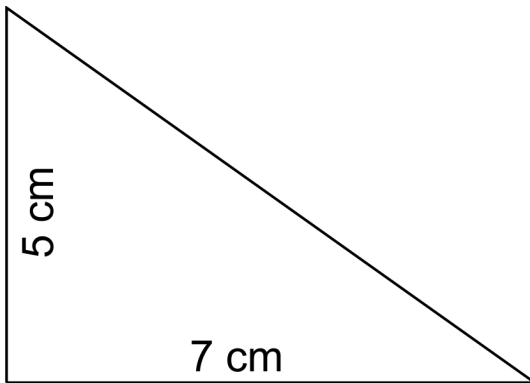
47. a. 9 m^2
b. 20 ft

48. Yes, it is. A square has one pair of parallel sides, which is a definition of a trapezoid.



49. Yes, it can. For example

50. a. Check the triangles the student drew. The student should use a tool, such as a triangular ruler or a protractor, to make the right angle. The picture below may be slightly out of scale when printed, due to the possible scaling in the printing process.



- b. $8.6 \text{ cm} + 5 \text{ cm} + 7 \text{ cm} = 20.6 \text{ cm}$
c. They measure $\underline{90}^\circ$, $\underline{36}^\circ$, and $\underline{54}^\circ$.

51. The volume is $5 \text{ cm} \times 10 \text{ cm} \times 4 \text{ cm} = 200 \text{ cm}^3$.

52. a. $1.2 \text{ m} \times 0.6 \text{ m} \times 1 \text{ m} = 0.72 \text{ m}^3$.
b. 240 liters. 0.72 m^3 is 720 liters, and one-third of that is 240 liters.