

Chapter 1 Numerical Expressions and Factors

Information Frame

1–9. Sample answers are given.

1.

Key Words: the sum of, the total of	Real-Life Application Example: On a video game, Jacob got 1685 points and earned two bonuses worth 193 and 270 points. What is his total score? Answer: 2148 points	Numbers: $\begin{array}{r} 1685 \\ 193 \\ + 270 \\ \hline 2148 \end{array}$
	Adding whole numbers Estimate and Check: $1685 + 193 + 270 \approx 1700 + 200 + 300 = 2200$ Because $2148 \approx 2200$, the answer is reasonable.	

2.

Key Words: the difference of, how many more, how many less, the change in	Real-Life Application Example: On the way to school, the temperature was 58°F. On the way home, it was 72°F. How much did the temperature increase? Answer: 14°F	Numbers: $\begin{array}{r} 72 \\ - 58 \\ \hline 14 \end{array}$
	Subtracting whole numbers Estimate and Check: $72 - 58 \approx 70 - 60 = 10$ Because $14 \approx 10$, the answer is reasonable.	

3.

Key Words: the product of, total of equal-size groups	Real-Life Application Example: How many cartons of milk should the cafeteria manager at Riverdale Middle School order so that all of the 136 students can get one carton per day in February (28 days)? Answer: 3808 cartons	Numbers: $\begin{array}{r} 136 \\ \times 28 \\ \hline 1088 \\ + 272 \\ \hline 3808 \end{array}$
	Multiplying whole numbers Estimate and Check: $136 \times 28 \approx 140 \times 30 = 4200$ Because $3808 \approx 4200$, the answer is reasonable.	

Chapter 1 (continued)

4.

Real-Life Application Example:
 Sukon has a package of 587 stickers and wants to give each of his 23 classmates the same number of stickers. What is the greatest number of stickers that he can give to each classmate? How many will be left over?

Key Words:
 the quotient of,
 divide into equal-size groups,
 $\frac{\text{dividend}}{\text{divisor}} = \text{quotient}$

Dividing whole numbers

Numbers:

$$\begin{array}{r} 25 \text{ R}12 \\ 23 \overline{)587} \\ \underline{-46} \\ 127 \\ \underline{-115} \\ 12 \end{array}$$

The quotient is $25\frac{12}{23}$.

Estimate and Check:

$$587 \div 23 \approx 600 \div 20 = 30$$

Because $25\frac{12}{23} \approx 30$, the answer is reasonable.

Answer: 25 stickers each with 12 left over

5.

Procedure:

1. Perform operations in Parentheses.
2. Evaluate numbers with Exponents.
3. Multiply or Divide from left to right.
4. Add or Subtract from left to right.

Order of operations

Example:

$$10 - 3 \times 2 + 4 = 10 - 6 + 4 = 4 + 4 = 8$$

Example:

$$16 \div 2^2 + 7 \times 5 = 16 \div 4 + 7 \times 5 = 4 + 35 = 39$$

Example:

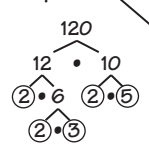
$$33 - (5 - 3)^3 \div 4 \times 6 + 1 = 33 - 2^3 \div 4 \times 6 + 1 = 33 - 8 \div 4 \times 6 + 1 = 33 - 2 \times 6 + 1 = 33 - 12 + 1 = 22$$

6.

Words:
 Write a composite number as a product of its prime factors. Use a factor tree to find a prime factorization.

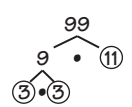
Prime factorization

Example:



$$120 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 = 2^3 \cdot 3 \cdot 5$$

Example:



$$99 = 3 \cdot 3 \cdot 11 = 3^2 \cdot 11$$

Example:

Find the greatest perfect square that is a factor of 252.

The prime factorization is $252 = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 7$.

$2 \cdot 2 = 4$ $3 \cdot 3 = 9$ $(2 \cdot 3) \cdot (2 \cdot 3) = 6 \cdot 6 = 36$

So, the greatest perfect square factor of 252 is 36.

Chapter 1 (continued)

7.

Words:
Factors that are shared by two or more numbers are called *common factors*. The greatest of the common factors is called the *greatest common factor (GCF)*.

Example:
Find the GCF of 16 and 24.
16: ①, ②, ④, ⑧, 16
24: ①, ②, 3, ④, 6, ⑧, 12, 24
The GCF is 8.

Greatest Common Factor (GCF)

Example:
Find the GCF of 72 and 90.
72: ②, ③, ④, ⑥, ⑧, ⑨, 12, 18, 24, 36, 72
90: ②, ③, ⑤, ⑥, 9, 10, 15, 18, 30, 45, 90
The GCF is $2 \cdot 3 \cdot 3 = 18$.

Example:
Find the GCF of 12 and 30.
12: ②, ③, ④, 6, 12
30: ②, ③, ⑤, 6, 10, 15, 30
The GCF is $2 \cdot 3 = 6$.

8.

Words:
Multiples that are shared by two or more numbers are called *common multiples*. The least of the common multiples is called the *least common multiple (LCM)*.

Example:
Find the LCM of 6 and 8.
6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120, 126, 132, 138, 144, 150, 156, 162, 168, 174, 180, 186, 192, 198, 204, 210, 216, 222, 228, 234, 240, 246, 252, 258, 264, 270, 276, 282, 288, 294, 300, 306, 312, 318, 324, 330, 336, 342, 348, 354, 360, 366, 372, 378, 384, 390, 396, 402, 408, 414, 420, 426, 432, 438, 444, 450, 456, 462, 468, 474, 480, 486, 492, 498, 504, 510, 516, 522, 528, 534, 540, 546, 552, 558, 564, 570, 576, 582, 588, 594, 600, 606, 612, 618, 624, 630, 636, 642, 648, 654, 660, 666, 672, 678, 684, 690, 696, 702, 708, 714, 720, 726, 732, 738, 744, 750, 756, 762, 768, 774, 780, 786, 792, 798, 804, 810, 816, 822, 828, 834, 840, 846, 852, 858, 864, 870, 876, 882, 888, 894, 900, 906, 912, 918, 924, 930, 936, 942, 948, 954, 960, 966, 972, 978, 984, 990, 996, 1000, 1006, 1012, 1018, 1024, 1030, 1036, 1042, 1048, 1054, 1060, 1066, 1072, 1078, 1084, 1090, 1096, 1102, 1108, 1114, 1120, 1126, 1132, 1138, 1144, 1150, 1156, 1162, 1168, 1174, 1180, 1186, 1192, 1198, 1200, 1206, 1212, 1218, 1224, 1230, 1236, 1242, 1248, 1254, 1260, 1266, 1272, 1278, 1284, 1290, 1296, 1302, 1308, 1314, 1320, 1326, 1332, 1338, 1344, 1350, 1356, 1362, 1368, 1374, 1380, 1386, 1392, 1398, 1404, 1410, 1416, 1422, 1428, 1434, 1440, 1446, 1452, 1458, 1464, 1470, 1476, 1482, 1488, 1494, 1500, 1506, 1512, 1518, 1524, 1530, 1536, 1542, 1548, 1554, 1560, 1566, 1572, 1578, 1584, 1590, 1596, 1600, 1606, 1612, 1618, 1624, 1630, 1636, 1642, 1648, 1654, 1660, 1666, 1672, 1678, 1684, 1690, 1696, 1702, 1708, 1714, 1720, 1726, 1732, 1738, 1744, 1750, 1756, 1762, 1768, 1774, 1780, 1786, 1792, 1798, 1800, 1806, 1812, 1818, 1824, 1830, 1836, 1842, 1848, 1854, 1860, 1866, 1872, 1878, 1884, 1890, 1896, 1902, 1908, 1914, 1920, 1926, 1932, 1938, 1944, 1950, 1956, 1962, 1968, 1974, 1980, 1986, 1992, 1998, 2000, 2006, 2012, 2018, 2024, 2030, 2036, 2042, 2048, 2054, 2060, 2066, 2072, 2078, 2084, 2090, 2096, 2100, 2106, 2112, 2118, 2124, 2130, 2136, 2142, 2148, 2154, 2160, 2166, 2172, 2178, 2184, 2190, 2196, 2200, 2206, 2212, 2218, 2224, 2230, 2236, 2242, 2248, 2254, 2260, 2266, 2272, 2278, 2284, 2290, 2296, 2300, 2306, 2312, 2318, 2324, 2330, 2336, 2342, 2348, 2354, 2360, 2366, 2372, 2378, 2384, 2390, 2396, 2400, 2406, 2412, 2418, 2424, 2430, 2436, 2442, 2448, 2454, 2460, 2466, 2472, 2478, 2484, 2490, 2496, 2500, 2506, 2512, 2518, 2524, 2530, 2536, 2542, 2548, 2554, 2560, 2566, 2572, 2578, 2584, 2590, 2596, 2600, 2606, 2612, 2618, 2624, 2630, 2636, 2642, 2648, 2654, 2660, 2666, 2672, 2678, 2684, 2690, 2696, 2700, 2706, 2712, 2718, 2724, 2730, 2736, 2742, 2748, 2754, 2760, 2766, 2772, 2778, 2784, 2790, 2796, 2800, 2806, 2812, 2818, 2824, 2830, 2836, 2842, 2848, 2854, 2860, 2866, 2872, 2878, 2884, 2890, 2896, 2900, 2906, 2912, 2918, 2924, 2930, 2936, 2942, 2948, 2954, 2960, 2966, 2972, 2978, 2984, 2990, 2996, 3000, 3006, 3012, 3018, 3024, 3030, 3036, 3042, 3048, 3054, 3060, 3066, 3072, 3078, 3084, 3090, 3096, 3100, 3106, 3112, 3118, 3124, 3130, 3136, 3142, 3148, 3154, 3160, 3166, 3172, 3178, 3184, 3190, 3196, 3200, 3206, 3212, 3218, 3224, 3230, 3236, 3242, 3248, 3254, 3260, 3266, 3272, 3278, 3284, 3290, 3296, 3300, 3306, 3312, 3318, 3324, 3330, 3336, 3342, 3348, 3354, 3360, 3366, 3372, 3378, 3384, 3390, 3396, 3400, 3406, 3412, 3418, 3424, 3430, 3436, 3442, 3448, 3454, 3460, 3466, 3472, 3478, 3484, 3490, 3496, 3500, 3506, 3512, 3518, 3524, 3530, 3536, 3542, 3548, 3554, 3560, 3566, 3572, 3578, 3584, 3590, 3596, 3600, 3606, 3612, 3618, 3624, 3630, 3636, 3642, 3648, 3654, 3660, 3666, 3672, 3678, 3684, 3690, 3696, 3700, 3706, 3712, 3718, 3724, 3730, 3736, 3742, 3748, 3754, 3760, 3766, 3772, 3778, 3784, 3790, 3796, 3800, 3806, 3812, 3818, 3824, 3830, 3836, 3842, 3848, 3854, 3860, 3866, 3872, 3878, 3884, 3890, 3896, 3900, 3906, 3912, 3918, 3924, 3930, 3936, 3942, 3948, 3954, 3960, 3966, 3972, 3978, 3984, 3990, 3996, 4000, 4006, 4012, 4018, 4024, 4030, 4036, 4042, 4048, 4054, 4060, 4066, 4072, 4078, 4084, 4090, 4096, 4100, 4106, 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8018, 8024, 8030, 8036, 8042, 8048, 8054, 8060, 8066, 8072, 8078, 8084, 8090, 8096, 8100, 8106, 8112, 8118, 8124, 8130, 8136, 8142, 8148, 8154, 8160, 8166, 8172, 8178, 8184, 8190, 8196, 8200, 8206, 8212, 8218, 8224, 8230, 8236, 8242, 8248, 8254, 8260, 8266, 8272, 8278, 8284, 8290, 8296, 8300, 8306, 8312, 8318, 8324, 8330, 8336, 8342, 8348, 8354, 8360, 8366, 8372, 8378, 8384, 8390, 8396, 8400, 8406, 8412, 8418, 8424, 8430, 8436, 8442, 8448, 8454, 8460, 8466, 8472, 8478, 8484, 8490, 8496, 8500, 8506, 8512, 8518, 8524, 8530, 8536, 8542, 8548, 8554, 8560, 8566, 8572, 8578, 8584, 8590, 8596, 8600, 8606, 8612, 8618, 8624, 8630, 8636, 8642, 8648, 8654, 8660, 8666, 8672, 8678, 8684, 8690, 8696, 8700, 8706, 8712, 8718, 8724, 8730, 8736, 8742, 8748, 8754, 8760, 8766, 8772, 8778, 8784, 8790, 8796, 8800, 8806, 8812, 8818, 8824, 8830, 8836, 8842, 8848, 8854, 8860, 8866, 8872, 8878, 8884, 8890, 8896, 8900, 8906, 8912, 8918, 8924, 8930, 8936, 8942, 8948, 8954, 8960, 8966, 8972, 8978, 8984, 8990, 8996, 9000, 9006, 9012, 9018, 9024, 9030, 9036, 9042, 9048, 9054, 9060, 9066, 9072, 9078, 9084, 9090, 9096, 9100, 9106, 9112, 9118, 9124, 9130, 9136, 9142, 9148, 9154, 9160, 9166, 9172, 9178, 9184, 9190, 9196, 9200, 9206, 9212, 9218, 9224, 9230, 9236, 9242, 9248, 9254, 9260, 9266, 9272, 9278, 9284, 9290, 9296, 9300, 9306, 9312, 9318, 9324, 9330, 9336, 9342, 9348, 9354, 9360, 9366, 9372, 9378, 9384, 9390, 9396, 9400, 9406, 9412, 9418, 9424, 9430, 9436, 9442, 9448, 9454, 9460, 9466, 9472, 9478, 9484, 9490, 9496, 9500, 9506, 9512, 9518, 9524, 9530, 9536, 9542, 9548, 9554, 9560, 9566, 9572, 9578, 9584, 9590, 9596, 9600, 9606, 9612, 9618, 9624, 9630, 9636, 9642, 9648, 9654, 9660, 9666, 9672, 9678, 9684, 9690, 9696, 9700, 9706, 9712, 9718, 9724, 9730, 9736, 9742, 9748, 9754, 9760, 9766, 9772, 9778, 9784, 9790, 9796, 9800, 9806, 9812, 9818, 9824, 9830, 9836, 9842, 9848, 9854, 9860, 9866, 9872, 9878, 9884, 9890, 9896, 9900, 9906, 9912, 9918, 9924, 9930, 9936, 9942, 9948, 9954, 9960, 9966, 9972, 9978, 9984, 9990, 9996, 10000, 10006, 10012, 10018, 10024, 10030, 10036, 10042, 10048, 10054, 10060, 10066, 10072, 10078, 10084, 10090, 10096, 10100, 10106, 10112, 10118, 10124, 10130, 10136, 10142, 10148, 10154, 10160, 10166, 10172, 10178, 10184, 10190, 10196, 10200, 10206, 10212, 10218, 10224, 10230, 10236, 10242, 10248, 10254, 10260, 10266, 10272, 10278, 10284, 10290, 10296, 10300, 10306, 10312, 10318, 10324, 10330, 10336, 10342, 10348, 10354, 10360, 10366, 10372, 10378, 10384, 10390, 10396, 10400, 10406, 10412, 10418, 10424, 10430, 10436, 10442, 10448, 10454, 10460, 10466, 10472, 10478, 10484, 10490, 10496, 10500, 10506, 10512, 10518, 10524, 10530, 10536, 10542, 10548, 10554, 10560, 10566, 10572, 10578, 10584, 10590, 10596, 10600, 10606, 10612, 10618, 10624, 10630, 10636, 10642, 10648, 10654, 10660, 10666, 10672, 10678, 10684, 10690, 10696, 10700, 10706, 10712, 10718, 10724, 10730, 10736, 10742, 10748, 10754, 10760, 10766, 10772, 10778, 10784, 10790, 10796, 10800, 10806, 10812, 10818, 10824, 10830, 10836, 10842, 10848, 10854, 10860, 10866, 10872, 10878, 10884, 10890, 10896, 10900, 10906, 10912, 10918, 10924, 10930, 10936, 10942, 10948, 10954, 10960, 10966, 10972, 10978, 10984, 10990, 10996, 11000, 11006, 11012, 11018, 11024, 11030, 11036, 11042, 11048, 11054, 11060, 11066, 11072, 11078, 11084, 11090, 11096, 11100, 11106, 11112, 11118, 11124, 11130, 11136, 11142, 11148, 11154, 11160, 11166, 11172, 11178, 11184, 11190, 11196, 11200, 11206, 11212, 11218, 11224, 11230, 11236, 11242, 11248, 11254, 11260, 11266, 11272, 11278, 11284, 11290, 11296, 11300, 11306, 11312, 11318, 11324, 11330, 11336, 11342, 11348, 11354, 11360, 11366, 11372, 11378, 11384, 11390, 11396, 11400, 11406, 11412, 11418, 11424, 11430, 11436, 11442, 11448,

Chapter 2 Fractions and Decimals

Notetaking Organizer

1–8. Sample answers are given.

1.

$\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ <p>$(b \neq 0 \text{ and } d \neq 0)$</p>	<p>Multiplying fractions</p> <p>Multiply the numerators and multiply the denominators. The denominators cannot be 0.</p> <p>Example:</p> $\frac{3}{4} \times \frac{5}{8} = \frac{3 \times 5}{4 \times 8} = \frac{15}{32}$
<p>How do you multiply two mixed numbers?</p>	

2.

$\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ <p>$(b \neq 0 \text{ and } d \neq 0)$</p>	<p>Multiplying mixed numbers</p> <ol style="list-style-type: none"> Write each mixed number as an improper fraction. Multiply as you would with fractions. <p>Example:</p> $1\frac{2}{3} \times 2\frac{3}{4} = \frac{5}{3} \times \frac{11}{4}$ $= \frac{5 \times 11}{3 \times 4}$ $= \frac{55}{12}, \text{ or } 4\frac{7}{12}$
<p>Why can't b and d equal 0? How do you divide mixed numbers?</p>	

Chapter 2 (continued)

3.

$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$ <p>(b, c, and $d \neq 0$)</p>	<p>Dividing mixed numbers</p> <ol style="list-style-type: none"> 1. Write each mixed number as an improper fraction. 2. Divide as you would with fractions. <p>Example:</p> $4\frac{3}{4} \div 2\frac{1}{2} = \frac{19}{4} \div \frac{5}{2}$ $= \frac{19}{4} \times \frac{2}{5}$ $= \frac{19 \times \cancel{2}^1}{2 \times 4 \times 5}$ $= \frac{19}{10}, \text{ or } 1\frac{9}{10}$
<p>How do you divide decimals?</p>	

4.

<p>Be sure to line up the decimal points so that you add or subtract only the digits that have the same place value. You may have to insert zeros.</p> $\begin{array}{r} \text{addend} \\ + \text{addend} \\ \hline \text{sum} \end{array}$	<p>Adding and subtracting decimals</p> <ol style="list-style-type: none"> 1. Line up the decimal points. 2. Bring down the decimal point. 3. Add or subtract as you would with whole numbers. <p>Example: $17.625 + 108.3$</p> $\begin{array}{r} 17.625 \\ + 108.300 \leftarrow \text{Insert zeros.} \\ \hline 125.925 \end{array}$
<p>How do you add or subtract a decimal and a fraction?</p>	

5.

<p>Remember to check that your product has the same number of decimal places as the decimal factor. You may have to insert zeros in your product.</p> <p>You do <u>not</u> have to line up the decimal points when multiplying.</p> $\begin{array}{r} \text{factor} \\ \times \text{factor} \\ \hline \text{product} \end{array}$	<p>Multiplying decimals by whole numbers</p> <ol style="list-style-type: none"> 1. Multiply as you would with whole numbers. 2. Count the number of decimal places in the decimal factor. 3. The product has the same number of decimal places. <p>Example: 16.64×3</p> $\begin{array}{r} 111 \\ 16.64 \\ \times 3 \\ \hline 49.92 \end{array} \leftarrow \begin{array}{l} \text{two decimal} \\ \text{places} \end{array}$
<p>How do you multiply two decimals? Why don't you line up the decimal points when multiplying?</p>	

6.

<p>Remember to check that your product has the same number of decimal places as the sum of the decimal places in the factors. You may have to insert zeros in your product.</p> <p>You do <u>not</u> have to line up the decimal points when multiplying.</p> $\begin{array}{r} \text{factor} \\ \times \text{factor} \\ \hline \text{product} \end{array}$	<p>Multiplying decimals by decimals</p> <ol style="list-style-type: none"> 1. Multiply as you would with whole numbers. 2. Add the number of decimal places in the factors. 3. The sum is the number of decimal places in the product. <p>Example: 3.6×4.07</p> $\begin{array}{r} 4.07 \leftarrow 2 \text{ decimal places} \\ \times 3.6 \leftarrow 1 \text{ decimal place} \\ \hline 2442 \\ 1221 \\ \hline 14.652 \leftarrow 3 \text{ decimal places} \end{array}$
<p>Why don't you line up the decimal points when multiplying? How do you multiply a decimal by a fraction?</p>	

Chapter 2 (continued)

7.

$\frac{\text{dividend}}{\text{divisor}} = \text{quotient}$ $\begin{array}{r} \text{quotient} \\ \text{divisor} \overline{) \text{dividend}} \end{array}$ <p>Remember to place the decimal point in the quotient first.</p>	<p>Dividing decimals by whole numbers</p> <ol style="list-style-type: none"> 1. Place the decimal point in the quotient above the decimal point in the dividend. 2. Divide as you would with whole numbers. 3. If needed, insert a zero in the dividend, and continue to divide. <p>Example: $11.7 \div 6$</p> $\begin{array}{r} 1.95 \\ 6 \overline{) 11.70} \\ \underline{-6} \\ 57 \\ \underline{-54} \\ 30 \\ \underline{-30} \\ 0 \end{array}$
<p>Why can you insert a zero after a decimal? How do you divide a decimal by another decimal?</p>	

8.

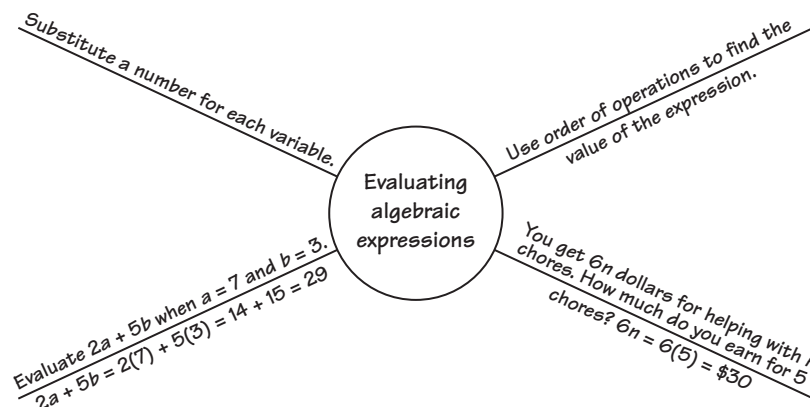
$\frac{\text{dividend}}{\text{divisor}} = \text{quotient}$ $\begin{array}{r} \text{quotient} \\ \text{divisor} \overline{) \text{dividend}} \end{array}$ <p>Multiplying the divisor and dividend by a power of 10 does not change the quotient.</p>	<p>Dividing decimals by decimals</p> <ol style="list-style-type: none"> 1. Multiply the divisor and the dividend by a power of 10 to make the divisor a whole number. 2. Place the decimal point in the quotient. 3. Divide as you would with whole numbers. 4. If needed, insert a zero in the dividend and continue to divide. <p>Example: $0.259 \div 0.14$</p> $\begin{array}{r} 1.85 \\ 0.14 \overline{) 0.259} \rightarrow 14 \overline{) 25.90} \\ \underline{-14} \\ 119 \\ \underline{-112} \\ 70 \\ \underline{-70} \\ 0 \end{array}$
<p>Why can you insert a zero after a decimal? How do you divide a fraction by a decimal?</p>	

Chapter 3 Algebraic Expressions and Properties

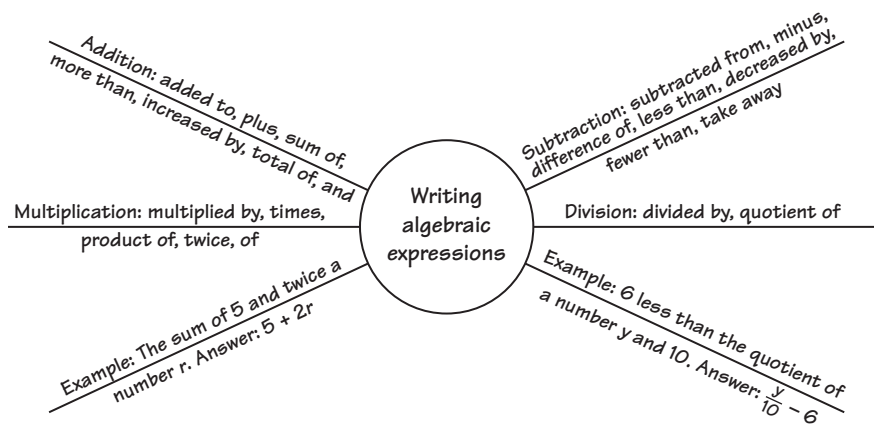
Information Wheel

1–8. Sample answers are given.

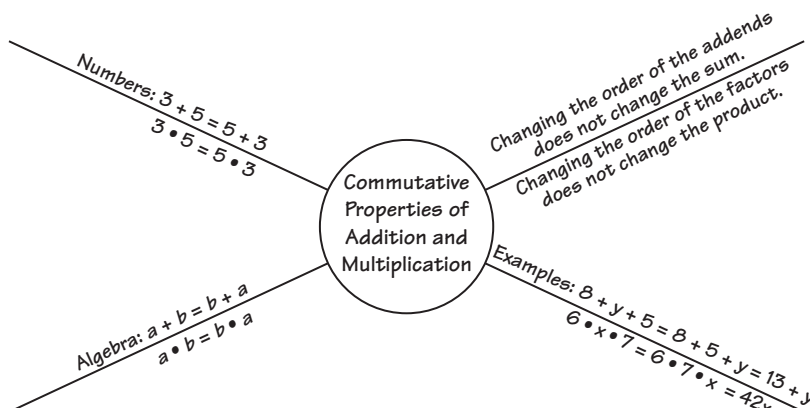
1.



2.

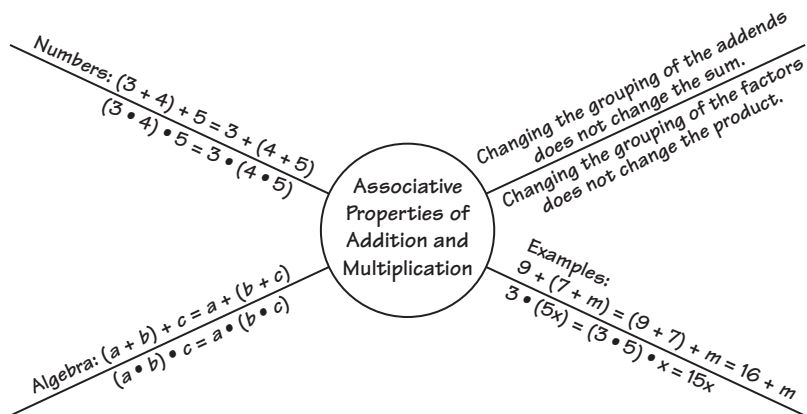


3.

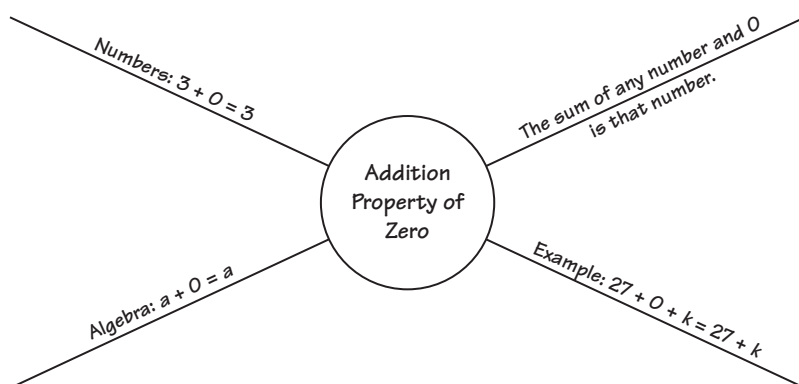


Chapter 3 (continued)

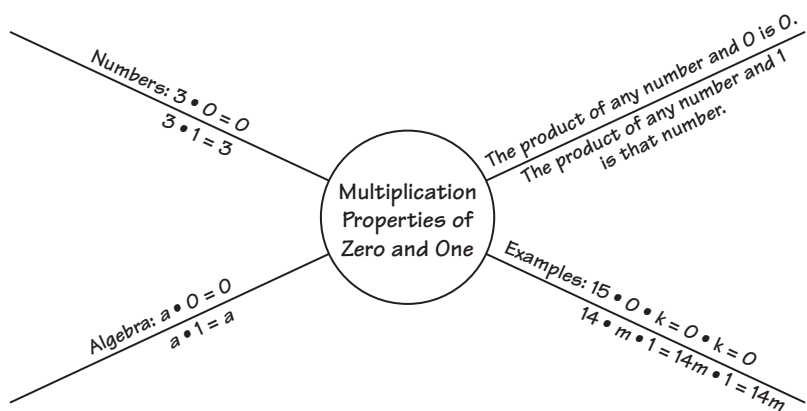
4.



5.

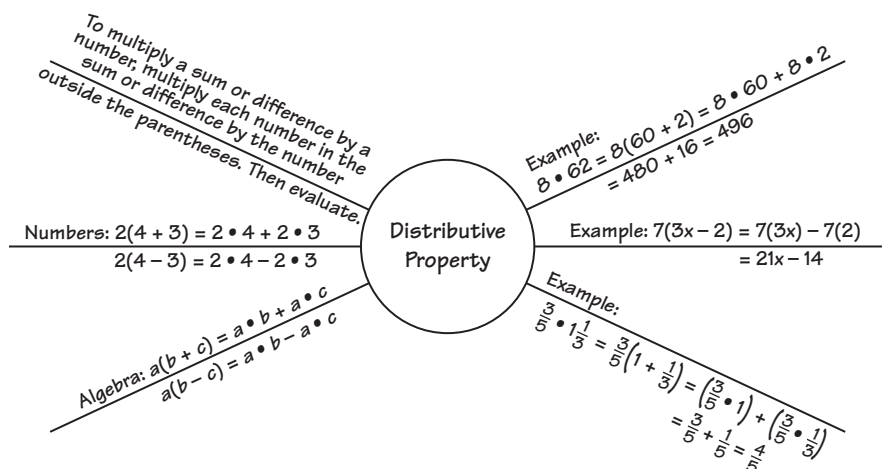


6.

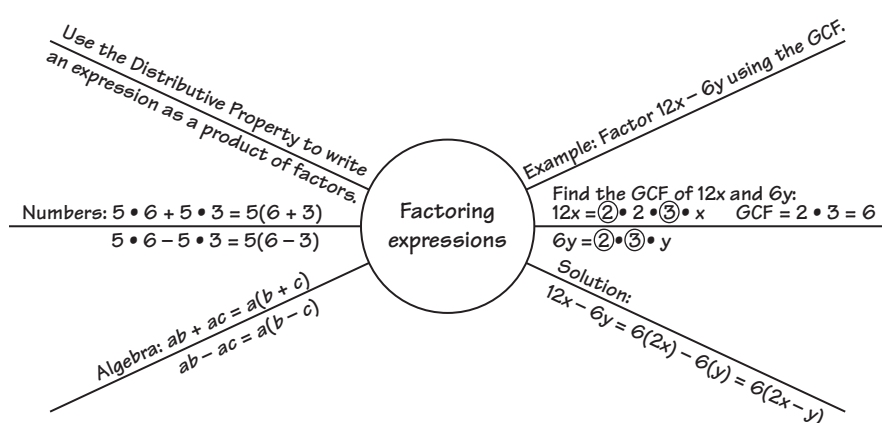


Chapter 3 (continued)

7.



8.

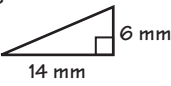
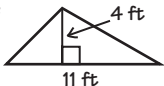


Chapter 4 Areas of Polygons

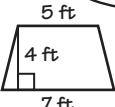
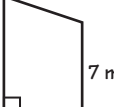
Four Square

1–5. Sample answers are given.

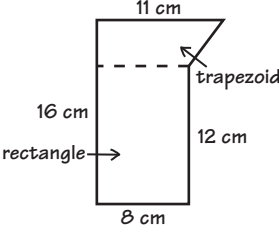
1.

<p>Words</p> <p>The area A of a triangle is one-half the product of its base b and its height h.</p>	<p>Algebra</p> $A = \frac{1}{2}bh$
<p>Area of a triangle</p>	
<p>Example</p>  $A = \frac{1}{2}bh$ $= \frac{1}{2}(14)(6)$ $= 42$ <p>The area of the triangle is 42 square millimeters.</p>	<p>Example</p>  $A = \frac{1}{2}bh$ $= \frac{1}{2}(11)(4)$ $= 22$ <p>The area of the triangle is 22 square feet.</p>

2.

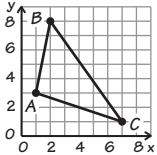
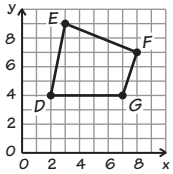
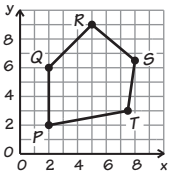
<p>Words</p> <p>The area A of a trapezoid is one-half the product of its height h and the sum of its bases b_1 and b_2.</p>	<p>Algebra</p> $A = \frac{1}{2}h(b_1 + b_2)$
<p>Area of a trapezoid</p>	
<p>Example</p>  $A = \frac{1}{2}h(b_1 + b_2)$ $= \frac{1}{2}(4)(5 + 7)$ $= 24$ <p>The area of the trapezoid is 24 square feet.</p>	<p>Example</p>  $A = \frac{1}{2}h(b_1 + b_2)$ $= \frac{1}{2}(6)(7 + 9)$ $= 48$ <p>The area of the trapezoid is 48 square meters.</p>

3.

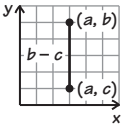
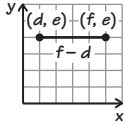
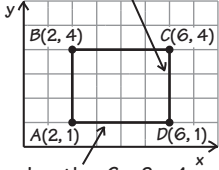
<p>Definition</p> <p>A composite figure is made up of triangles, squares, rectangles, and other two-dimensional figures.</p>	<p>Words</p> <p>To find the area of a composite figure, separate it into figures with areas you know how to find. Then find the sum of the areas of those figures.</p>								
<p>Area of a composite figure</p>									
<p>Example</p> 	<p>Solution</p> <table border="0"> <tr> <td>Area of trapezoid</td> <td>Area of rectangle</td> </tr> <tr> <td>$A = \frac{1}{2}h(b_1 + b_2)$</td> <td>$A = lw$</td> </tr> <tr> <td>$= \frac{1}{2}(4)(8 + 11)$</td> <td>$= 12(8)$</td> </tr> <tr> <td>$= 38$</td> <td>$= 96$</td> </tr> </table> <p>So the area of the composite figure is $38 + 96 = 134$ square centimeters.</p>	Area of trapezoid	Area of rectangle	$A = \frac{1}{2}h(b_1 + b_2)$	$A = lw$	$= \frac{1}{2}(4)(8 + 11)$	$= 12(8)$	$= 38$	$= 96$
Area of trapezoid	Area of rectangle								
$A = \frac{1}{2}h(b_1 + b_2)$	$A = lw$								
$= \frac{1}{2}(4)(8 + 11)$	$= 12(8)$								
$= 38$	$= 96$								

Chapter 4 (continued)

4.

<p>Words</p> <p>You can use ordered pairs to represent vertices of polygons. To draw a polygon in a coordinate plane, plot and connect the ordered pairs.</p>	<p>Triangle</p> <p>$A(1, 3), B(2, 8), C(7, 1)$</p> 
<p>Drawing a polygon in a coordinate plane</p>	
<p>Quadrilateral</p> <p>$D(2, 4), E(3, 9), F(8, 7), G(7, 4)$</p> 	<p>Pentagon</p> <p>$P(2, 2), Q(2, 6), R(5, 9), S(8, 6\frac{1}{2}), T(7\frac{1}{2}, 3)$</p> 

5.

<p>Words</p> <p>You can find the length of a horizontal or vertical line segment in a coordinate plane using the coordinates of the endpoints.</p>	<p>Vertical Lines</p> <p>When the x-coordinates are the same, find the difference of the y-coordinates.</p> 
<p>Finding distances in the first quadrant</p>	
<p>Horizontal Lines</p> <p>When the y-coordinates are the same, find the difference of the x-coordinates.</p> 	<p>Example</p> <p>Find the perimeter.</p> <p>width = $4 - 1 = 3$</p>  <p>length = $6 - 2 = 4$</p> <p>The perimeter of the rectangle is $2(4) + 2(3) = 14$ units.</p>

Chapter 5 Ratios and Rates

Definition and Example Chart

1–10. Sample answers are given.

1. Equivalent ratios: two ratios that describe the same relationship.

Example

3 : 4 and 9 : 12

Example

50 to 40 and 5 to 4

Example

1 : 12 and 5 to 60

2. Ratio table: a table used to find and organize equivalent ratios.

Example

Girls	5	10	20
Boys	3	6	12

Equivalent ratios: 5 : 3, 10 : 6, 20 : 12

Example

Flour (cups)	3	6	9	12
Water (cups)	1	2	3	4

Equivalent ratios: 3 : 1, 6 : 2, 9 : 3, 12 : 4

Example

Red	3	18
Yellow	7	42

Equivalent ratios: 3 : 7, 18 : 42

3. Rate: a ratio of two quantities using different units.

Example

$\frac{\$135}{3 \text{ hours}}$

Example

$\frac{63 \text{ feet}}{12 \text{ seconds}}$

Example

$\frac{8 \text{ hits}}{25 \text{ at bats}}$

4. Unit rate: a rate that compares a quantity to one unit of another quantity.

Example

$\frac{60 \text{ miles}}{1 \text{ hour}}$

Example

$\frac{5.25 \text{ feet}}{1 \text{ second}}$

Example

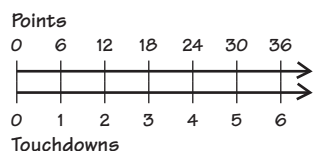
$\frac{72 \text{ words}}{1 \text{ minute}}$

Chapter 5 (continued)

5.

Equivalent rates: rates that have the same unit rate.

Example



Example

Distance (feet)	36	12	96
Time (seconds)	3	1	8

Equivalent rates: $\frac{36 \text{ ft}}{3 \text{ sec}} = \frac{12 \text{ ft}}{1 \text{ sec}} = \frac{96 \text{ ft}}{8 \text{ sec}}$

Example

Cost (dollars)	17.5	3.5	7
Apples (pounds)	5	1	2

Equivalent rates: $\frac{\$17.50}{5 \text{ lb}} = \frac{\$3.50}{1 \text{ lb}} = \frac{\$7.00}{2 \text{ lb}}$

6.

Percent: a part-to-whole ratio where the whole is 100. So, you can write a percent as a fraction with a denominator of 100.

Example

$$40\% = 40 \text{ out of } 100 = \frac{40}{100} = \frac{2}{5}$$

Example

$$112\% = \frac{112}{100} = 1 \frac{12}{100} = 1 \frac{3}{25}$$

Example

$$\frac{9}{20} = \frac{9 \times 5}{20 \times 5} = \frac{45}{100} = 45\%$$

7.

U.S. customary system: a system of measurement that contains units for length, capacity, and weight.

Example

Unit of length: foot

Example

Unit of capacity: quart

Example

Unit of weight: pound

8.

Metric system: a decimal system of measurement, based on powers of 10, that contains units for length, capacity, and mass.

Example

Unit of length: meter

Example

Unit of capacity: liter

Example

Unit of mass: gram

9.

Conversion factor: a rate that equals 1.

Example

Length: $\frac{1 \text{ mi}}{5280 \text{ ft}}$ and $\frac{5280 \text{ ft}}{1 \text{ mi}}$, $\frac{1 \text{ m}}{3.28 \text{ ft}}$ and $\frac{3.28 \text{ ft}}{1 \text{ m}}$, $\frac{1 \text{ cm}}{10 \text{ mm}}$ and $\frac{10 \text{ mm}}{1 \text{ cm}}$

Example

Capacity: $\frac{1 \text{ gal}}{4 \text{ qt}}$ and $\frac{4 \text{ qt}}{1 \text{ gal}}$, $\frac{1 \text{ qt}}{0.95 \text{ L}}$ and $\frac{0.95 \text{ L}}{1 \text{ qt}}$, $\frac{1 \text{ L}}{1000 \text{ ml}}$ and $\frac{1000 \text{ ml}}{1 \text{ L}}$

Example

Mass: $\frac{1 \text{ lb}}{16 \text{ oz}}$ and $\frac{16 \text{ oz}}{1 \text{ lb}}$, $\frac{1 \text{ lb}}{0.45 \text{ kg}}$ and $\frac{0.45 \text{ kg}}{1 \text{ lb}}$, $\frac{1 \text{ kg}}{1000 \text{ g}}$ and $\frac{1000 \text{ g}}{1 \text{ kg}}$

Example

Time: $\frac{1 \text{ h}}{60 \text{ min}}$ and $\frac{60 \text{ min}}{1 \text{ h}}$, $\frac{1 \text{ day}}{24 \text{ h}}$ and $\frac{24 \text{ h}}{1 \text{ day}}$, $\frac{1 \text{ h}}{3600 \text{ sec}}$ and $\frac{3600 \text{ sec}}{1 \text{ h}}$

10.

Unit analysis: a process you can use to decide which conversion factor will produce the appropriate units.

Example

$$12 \text{ lb} = \underline{\hspace{1cm}} \text{ oz}$$

$$12 \cancel{\text{ lb}} \cdot \frac{16 \text{ oz}}{1 \cancel{\text{ lb}}} = 192 \text{ oz}$$

Example

$$25 \text{ ml} = \underline{\hspace{1cm}} \text{ L}$$

$$25 \cancel{\text{ ml}} \cdot \frac{1 \text{ L}}{1000 \cancel{\text{ ml}}} = 0.025 \text{ L}$$

Example

$$35 \text{ mph} = \underline{\hspace{1cm}} \text{ ft/sec}$$

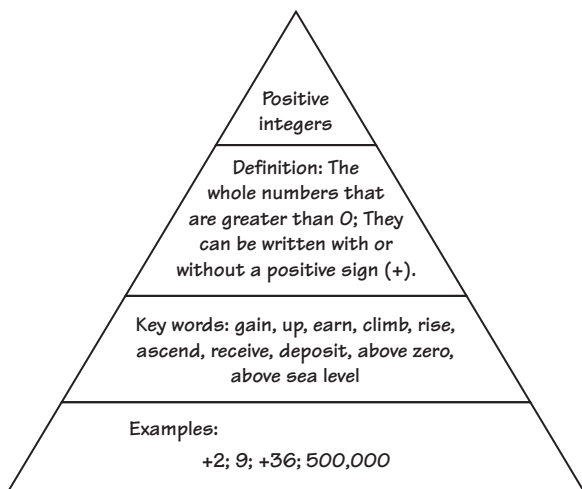
$$\frac{35 \cancel{\text{ mi}} (5280 \text{ ft})}{1 \cancel{\text{ mi}} (1 \cancel{\text{ mi}})} \left(\frac{1 \cancel{\text{ h}}}{3600 \text{ sec}} \right) = \frac{184,800 \text{ ft}}{3600 \text{ sec}} \approx 51.3 \text{ ft/sec}$$

Chapter 6 Integers and the Coordinate Plane

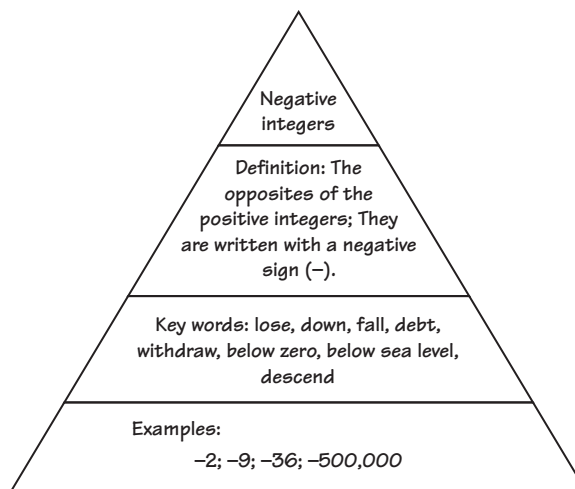
Summary Triangle

1–7. Sample answers are given.

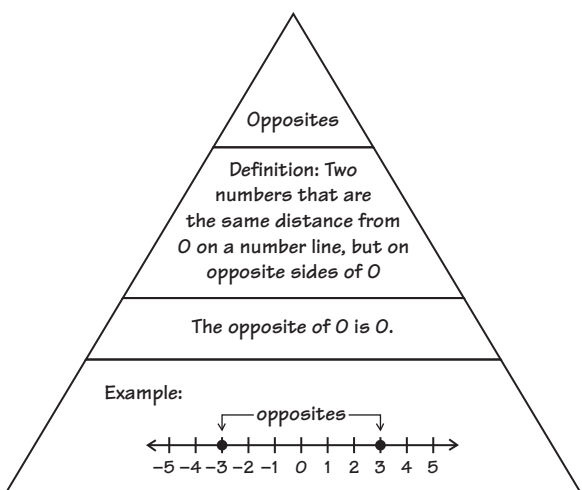
1.



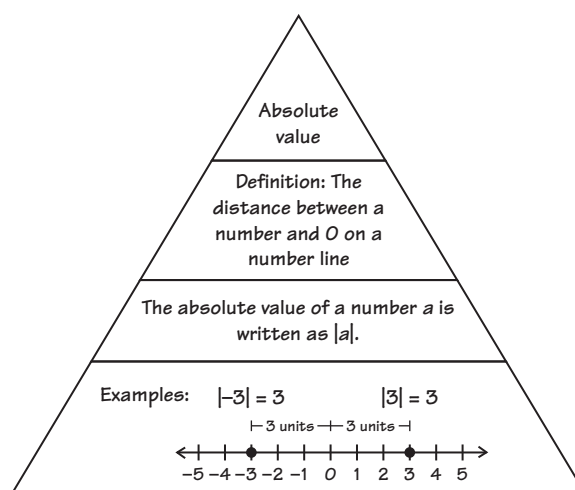
2.



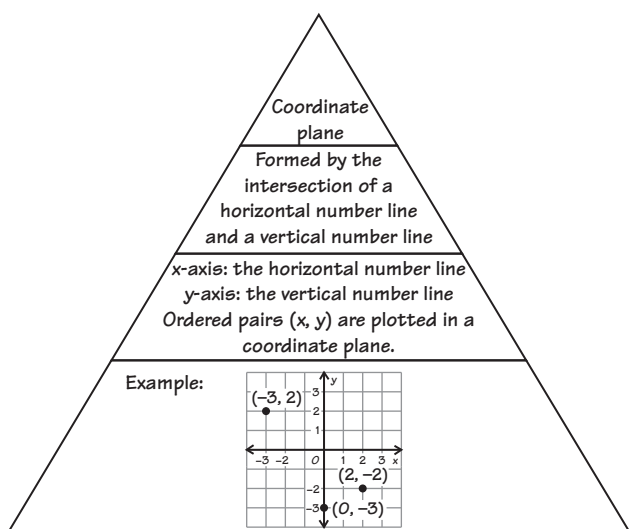
3.



4.

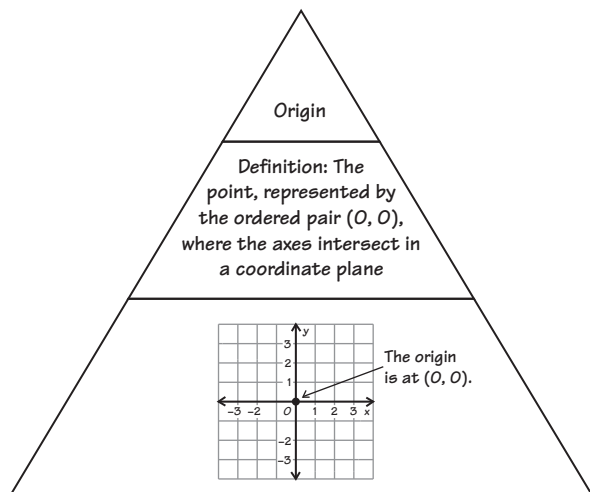


5.

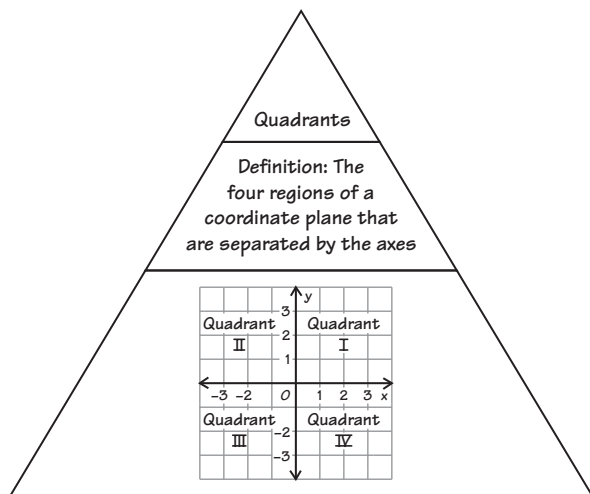


Chapter 6 (continued)

6.



7.



Chapter 7 Equations and Inequalities

Example and Non-Example Chart

1–8. Sample answers are given.

1. Inverse Operations

Examples	Non-Examples
addition and subtraction	addition and multiplication
multiplication and division	addition and division
	subtraction and multiplication
	subtraction and division

2. Equations Solved Using Addition or Subtraction

Examples	Non-Examples
$y + 9 = 12$	$2a = 16$
$a - 11 = 3 - 2$	$0.4b = 4$
$10 = x - 19$	$\frac{3}{4}y = 6$
$25 = r + 14$	$\frac{y}{6} = 0$

3. Equations Solved Using Multiplication or Division

Examples	Non-Examples
$2a = 16$	$x - 1 = 5$
$\frac{y}{4} = 6$	$y + 9 = 12$
$0.4b = 4$	$a - 11 = 3 - 2$
$\frac{6}{7} = \frac{x}{14}$	$10 = x - 19$

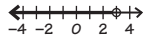
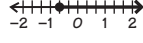
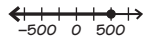
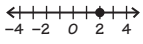
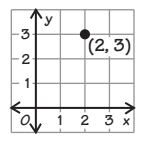
4. Equations in Two Variables

Examples	Non-Examples
$y = 5x$	$12x = 3$
$y = 7 - x$	$\frac{y}{4} = 6$
$C = 50 + 3w$	$x - 1 = 5$
$d = 25t$	$a + 11 = 30$
$y = 4x - 3$	$0.4b = 4$

5. Inequalities

Examples	Non-Examples
$x - 5 \geq 8$	$6y = 12$
$4 + 13 < n + 2$	$x + 9 = 17$
$r > -\frac{3}{4}$	$a = 5$
$0 \leq k$	$10 = c - 1$

6. Graphs of Inequalities

Examples	Non-Examples
$n < 3$  $-\frac{2}{3} \leq x$  $C \leq 500$ 	$x = 2$  

7. Inequalities Solved Using Addition or Subtraction

Examples	Non-Examples
$x + 3 < 9$	$x + 5 = 7$
$8 \geq n - 5$	$8x > 16$
$a - 11 > 3 - 2$	$0.4b \leq 4$
$m + \frac{1}{4} \leq \frac{1}{2}$	$\frac{n}{3} > 4$

8. Inequalities Solved Using Multiplication or Division

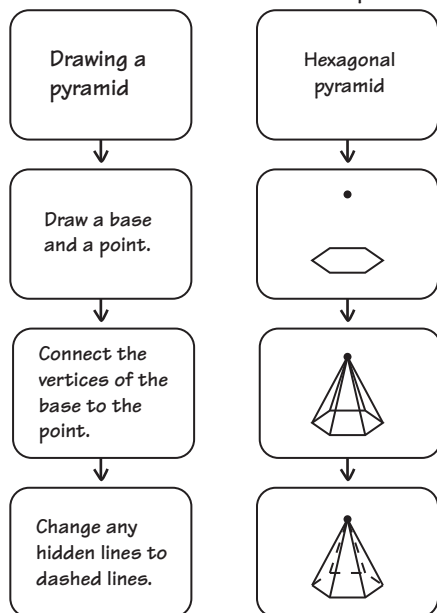
Examples	Non-Examples
$5a < 15$	$4a = 12$
$\frac{y}{4} \geq 6$	$\frac{x}{3} = 7$
$0.4b > 4$	$n - 7 > 10$
$\frac{6}{7} \leq \frac{x}{14}$	$12 \geq y + 9$

Chapter 8 Surface Area and Volume

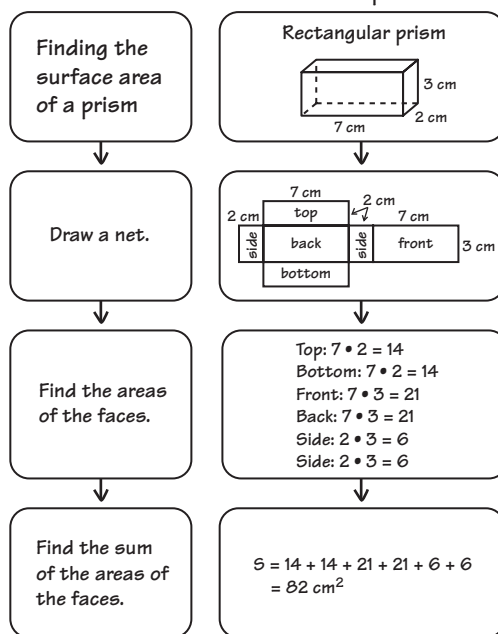
Process Diagram

1–4. Sample answers are given.

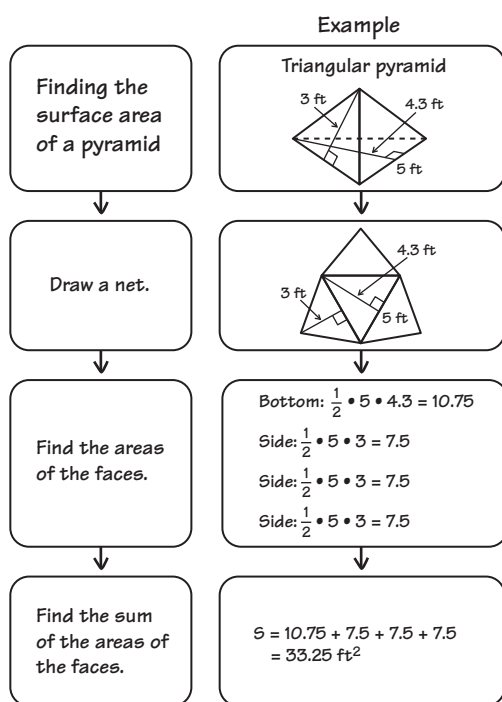
1.



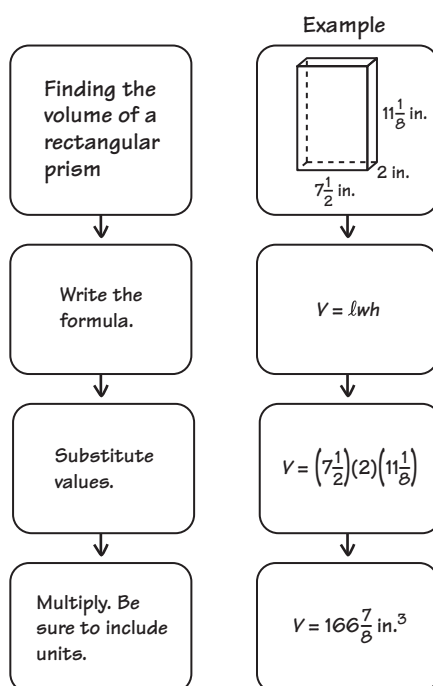
2.



3.



4.

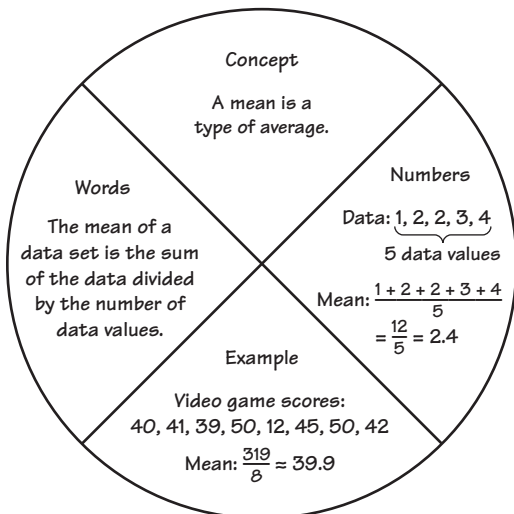


Chapter 9 Statistical Measures

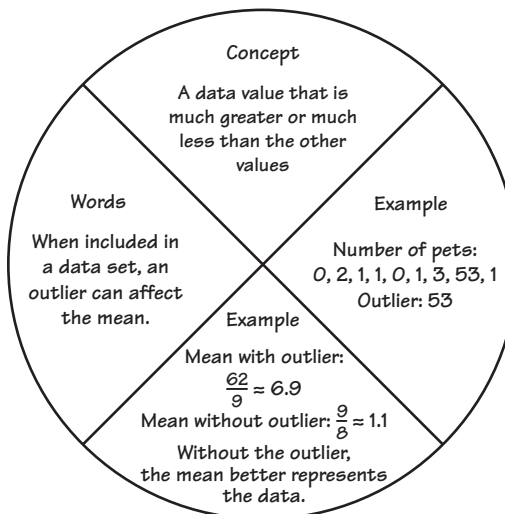
Concept Circle

1–10. Sample answers are given.

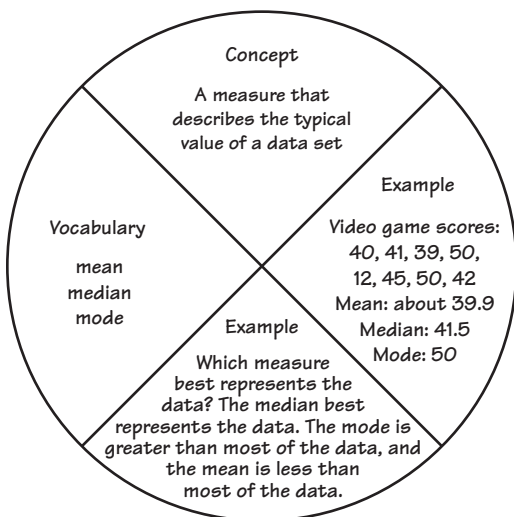
1. Mean



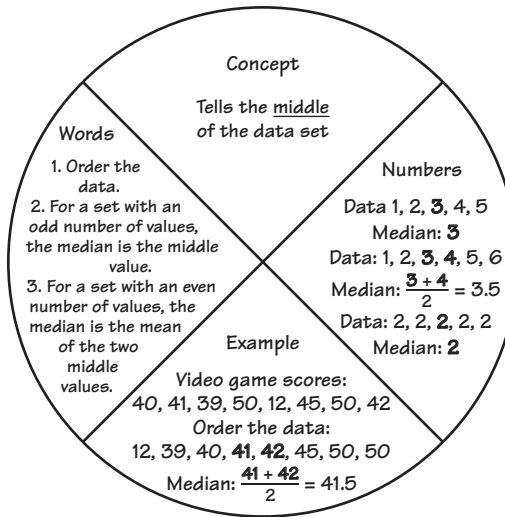
2. Outlier



3. Measures of Center



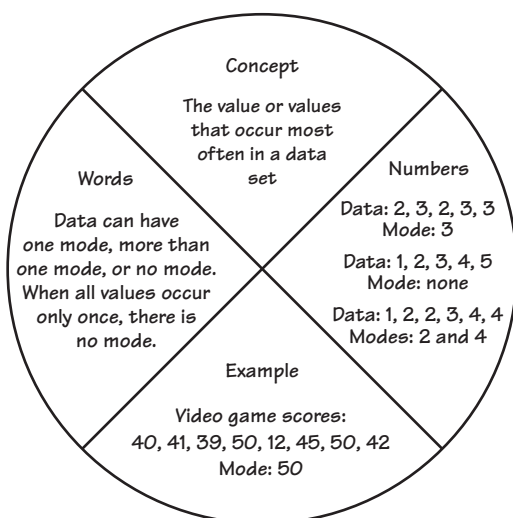
4. Median



Chapter 9 (continued)

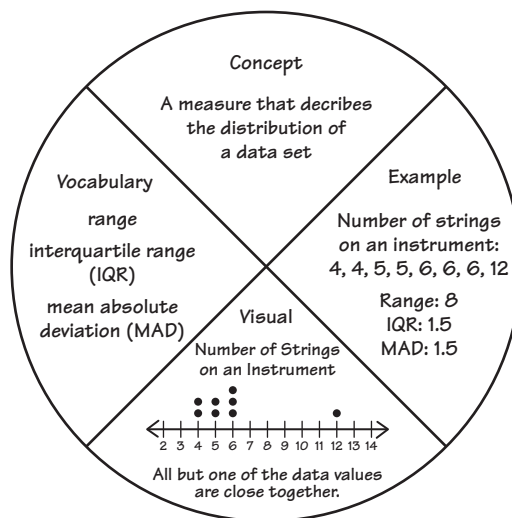
5.

Mode



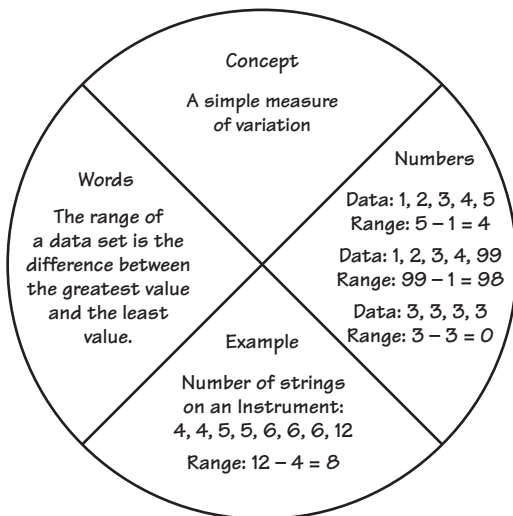
6.

Measures of Variation



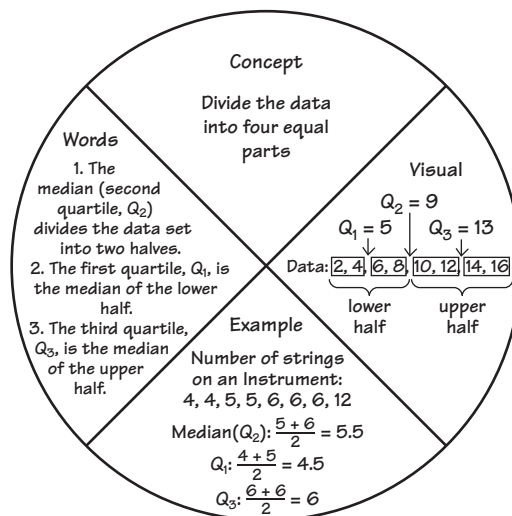
7.

Range



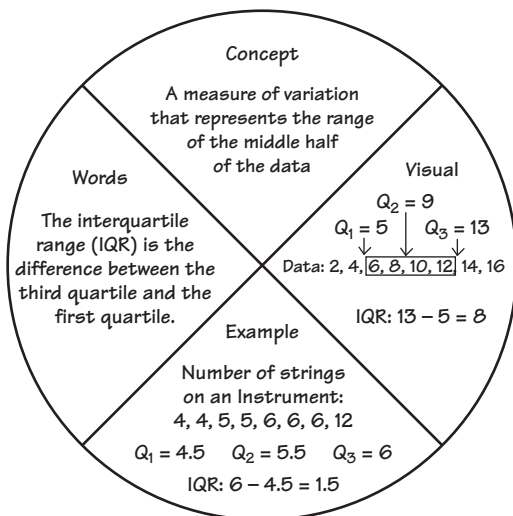
8.

Quartiles



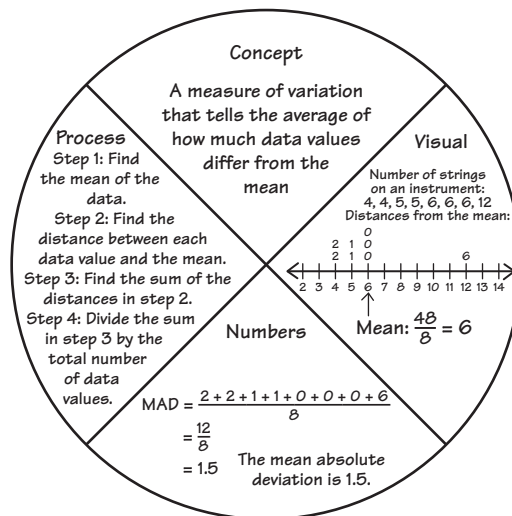
9.

Interquartile Range (IQR)



10.

Mean Absolute Deviation (MAD)



Chapter 10 Data Displays

Word Magnet

1–4. Sample answers are given.

1.

Uses the digits of data values to organize a data set

The stem is the digit or digits on the left.

The leaf is the digit or digits on the right.

Shows how data are distributed

Stem-and-leaf plot

Example

Tickets sold per day:
32, 21, 5, 9, 7, 28, 32, 39, 48, 47

Stem	Leaf
0	5 7 9
1	
2	1 8
3	2 2 9
4	7 8

Key: 2|8 = 28 tickets

2.

You can use dot plots and histograms to identify shapes of distributions.

Symmetric:

The left side is a mirror image of the right side.

When a data distribution is symmetric, use the mean to describe the center and use the MAD to describe the variation.

Shapes of distributions

Skewed left:

- The "tail" extends to the left.
- Most data are on the right.

Skewed right:

- The "tail" extends to the right.
- Most data are on the left.

When a data distribution is skewed, use the median to describe the center and use the IQR to describe the variation.

3.

Represents a data set along a number line by using the least value, the greatest value, and the quartiles of the data

The five numbers that make up the box-and-whisker plot are called the five-number summary of the data set.

Shows the variability of a data set

Box-and-whisker plot

About $\frac{1}{4}$ of the data are in each whisker.

About $\frac{1}{2}$ of the data are in the box.

A long whisker or box indicates that the data are more spread out.

Symmetric:

- Whiskers about same length
- Median in the middle of the box

Skewed left:

- Left whisker longer than right
- Most data on the right

Skewed right:

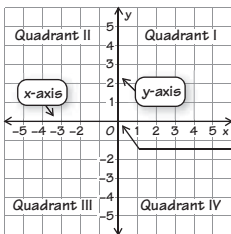
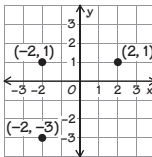
- Right whisker longer than left
- Most data on the left

Chapter 10 (continued)

4.

Absolute value	
Distance between a number and 0 on a number line	The absolute value of a number a is written as $ a $.
The absolute value of a positive number is positive.	$ 5.3 = 5.3$
The absolute value of a negative number is positive.	$ -6 = 6$
The absolute value of 0 is 0.	$ 0 = 0$

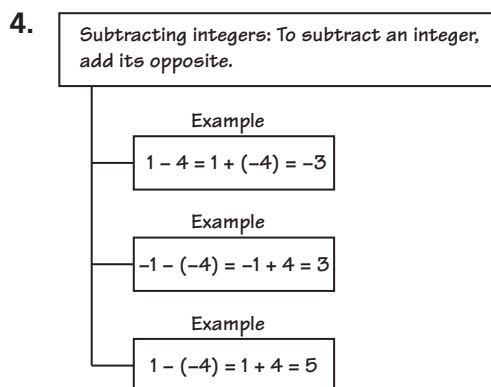
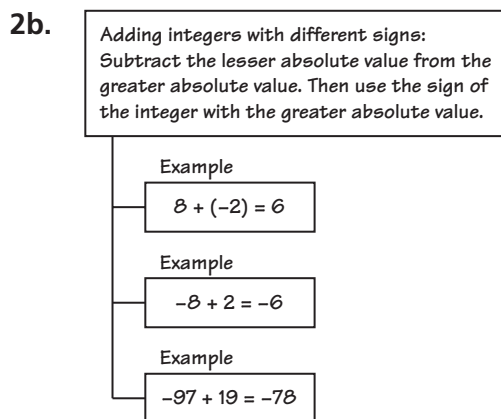
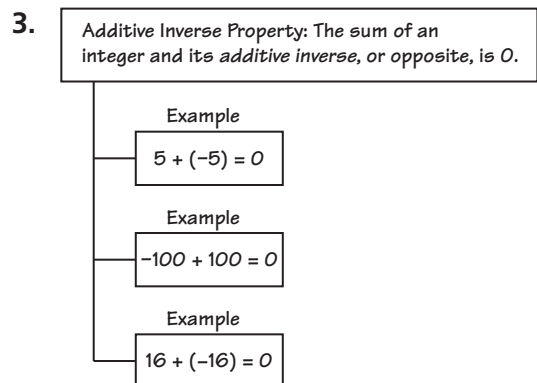
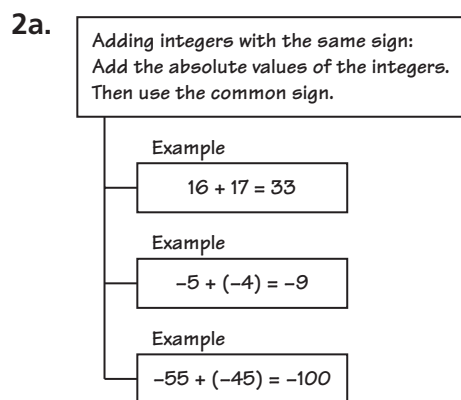
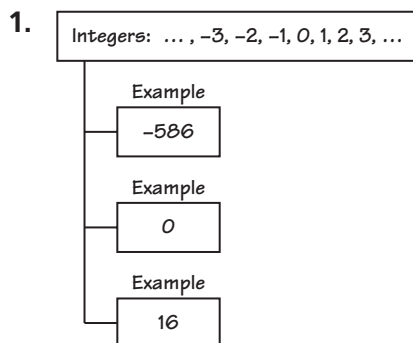
Words	Properties of Equality	Algebra
Addition: When you add the same number to each side of an equation, the two sides remain equal.		Addition: $x - 5 = 6$ $\quad +5 \quad +5$ $x = 11$
Subtraction: When you subtract the same number from each side of an equation, the two sides remain equal.		Subtraction: $x + 5 = 6$ $\quad -5 \quad -5$ $x = 1$
Multiplication: When you multiply each side of an equation by the same nonzero number, the two sides remain equal.		Multiplication: $\frac{x}{3} = 4$ $\frac{x}{3} \cdot 3 = 4 \cdot 3$ $x = 12$
Division: When you divide each side of an equation by the same nonzero number, the two sides remain equal.		Division: $3x = 21$ $\frac{3x}{3} = \frac{21}{3}$ $x = 7$

Coordinate plane	
Formed by the intersection of a horizontal number line and a vertical number line	Ordered pairs (x, y) are plotted in a coordinate plane.
 <p>The origin is at $(0, 0)$.</p>	<p>Example</p> 

Chapter 11 Integers

Idea and Examples Chart

1–6. Sample answers are given.



Chapter 11 (continued)

5a.

Multiplying integers with the same sign: The product of two integers with the same sign is positive.

Example

$$6 \cdot 3 = 18$$

Example

$$-6 \cdot (-3) = 18$$

Example

$$-18(-16) = 288$$

5b.

Multiplying integers with different signs: The product of two integers with different signs is negative.

Example

$$6 \cdot (-3) = -18$$

Example

$$-6 \cdot 3 = -18$$

Example

$$18(-16) = -288$$

6a.

Dividing integers with the same sign: The quotient of two integers with the same sign is positive.

Example

$$100 \div 4 = 25$$

Example

$$-100 \div (-4) = 25$$

Example

$$\frac{-98}{-7} = 14$$

6b.

Dividing integers with different signs: The quotient of two integers with different signs is negative.

Example

$$100 \div (-4) = -25$$

Example

$$-100 \div 4 = -25$$

Example

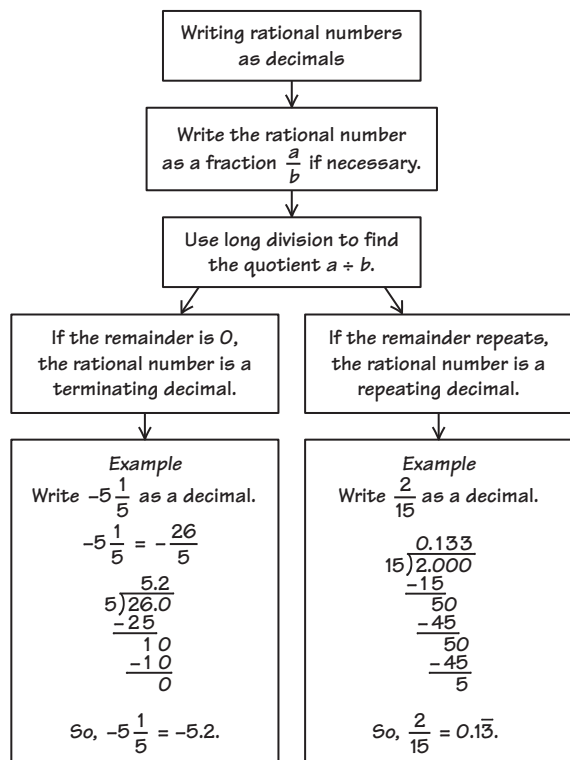
$$\frac{-98}{7} = -14$$

Chapter 12 Rational Numbers

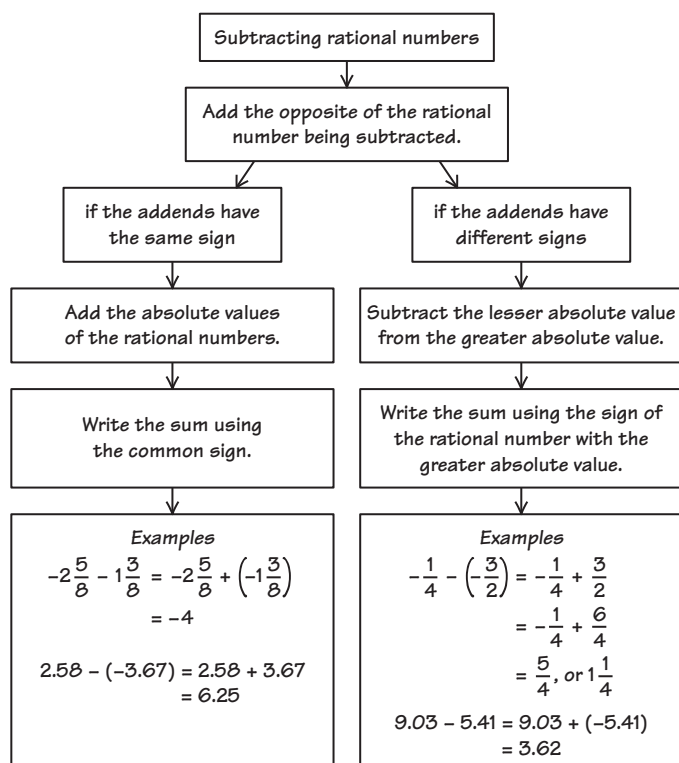
Process Diagram

1–4. Sample answers are given.

1.

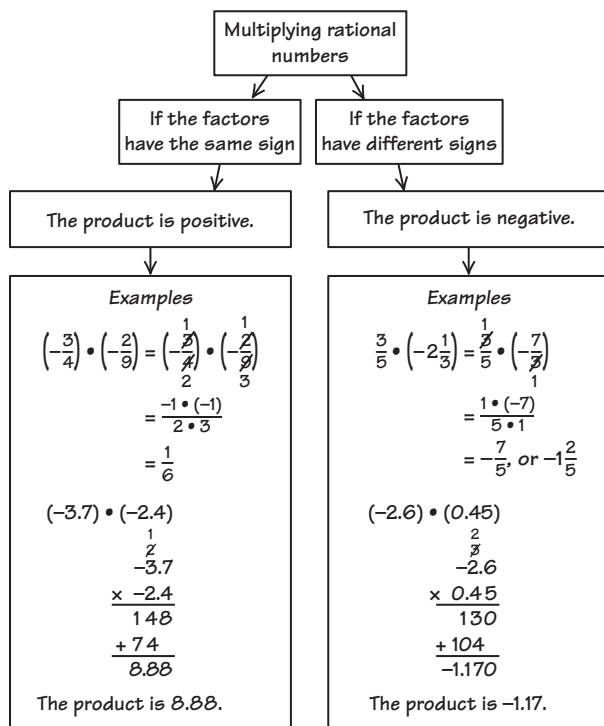


2.

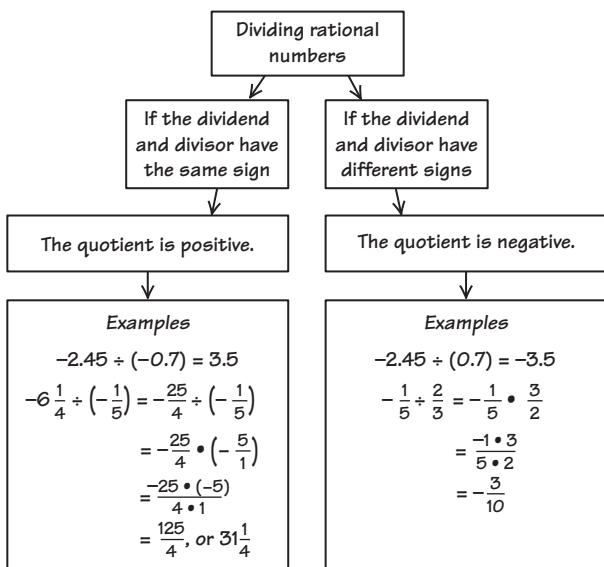


Chapter 12 (continued)

3.



4.



Chapter 13 Expressions and Equations

Four Square

1–7. Sample answers are given.

1.

Definition An algebraic expression is in <i>simplest form</i> when it has: 1. no like terms and 2. no parentheses.	Words To write an algebraic expression in simplest form: Step 1: Rewrite as a sum. Step 2: Use the Distributive Property on parentheses, if necessary. Step 3: Rearrange terms. Step 4: Combine like terms.
Simplest form	
Example $5x^2 + 6x - 3x^2 + 8 - x$ $= 5x^2 + 6x + (-3x^2) + 8 + (-1x)$ $= 5x^2 + (-3x^2) + 6x + (-1x) + 8$ $= [5 + (-3)]x^2 + [6 + (-1)]x + 8$ $= 2x^2 + 5x + 8$	Example $9 - 3\left(\frac{2}{3}m - \frac{1}{3}\right) + 3m$ $= 9 + (-3)\left(\frac{2}{3}m + \left(-\frac{1}{3}\right)\right) + 3m$ $= 9 + (-3)\left(\frac{2}{3}m\right) + (-3)\left(-\frac{1}{3}\right) + 3m$ $= 9 + (-2m) + 1 + 3m$ $= (-2m) + 3m + 9 + 1$ $= (-2 + 3)m + (9 + 1)$ $= m + 10$

2.

Definition An algebraic expression in which the exponent of the variable is 1	Examples $-7x$, $2x + 3$, $8 - \frac{1}{4}x$ Non-examples: x^3 , $-5x^2 + x$, $x^7 - 9$
Linear expression	
Example Adding linear expressions: $(7 - w) + 3(-2w + 4)$ $= 7 + (-1w) + 3(-2w) + 3(4)$ $= 7 + (-1w) + (-6w) + 12$ $= (-1w) + (-6w) + 7 + 12$ $= -7w + 19$	Example Subtracting linear expressions: $(4y + 7) - (y - 8)$ $4y + 7 \Rightarrow 4y + 7$ $-(y - 8) \Rightarrow +(-1y) + 8$ $3y + 15$

3.

Words Write the expression as a product of factors. You can use the Distributive Property.	Example Factor $12a - 30$ using the GCF. $12a = 2 \cdot 2 \cdot 3 \cdot a$ $30 = 2 \cdot 3 \cdot 5$ $GCF = 2 \cdot 3 = 6$ $12a - 30 = 6(2a) - 6(5)$ $= 6(2a - 5)$
Factoring expressions	
Example Factor $\frac{1}{4}$ out of $\frac{1}{4}r + \frac{3}{4}$. $\frac{1}{4}r = \frac{1}{4} \cdot r$ $\frac{3}{4} = \frac{1}{4} \cdot 3$ $\frac{1}{4}r + \frac{3}{4} = \frac{1}{4} \cdot r + \frac{1}{4} \cdot 3$ $= \frac{1}{4}(r + 3)$	Example Factor -7 out of $-21p + 28$. $-21p = -7 \cdot 3p$ $28 = -7 \cdot (-4)$ $-21p + 28 = -7(3p) + (-7)(-4)$ $= -7(3p - 4)$

4.

Words Two equations are <i>equivalent equations</i> if they have the same solutions. You can use the Addition, Subtraction, Multiplication, and Division Properties of Equality to write equivalent equations.	Algebra $a = b$ and $a + c = b + c$ $a = b$ and $a - c = b - c$ $a = b$ and $a \cdot c = b \cdot c$ $a = b$ and $\frac{a}{c} = \frac{b}{c}$, $c \neq 0$
Equivalent equations	
Examples $x - 7 = 2$ and $x - 7 + 7 = 2 + 7$ $2d + 5 = -7$ and $2d + 5 - 5 = -7 - 5$ $24 = \frac{y}{-4}$ and $-4 \cdot 24 = -4 \cdot \frac{y}{-4}$ $3c = -12$ and $\frac{3c}{3} = \frac{-12}{3}$	Non-Examples $x + 7 = 2$ and $x + 7 - 7 = 2 + 7$ $3c = -4$ and $\frac{3c}{3} = 3 \cdot (-4)$ $7 = m + 3$ and $7 - 7 = m + 3 - 3$ $3x + 7 = 3$ and $3x = 7 + 3$

Chapter 13 (continued)

5.

Words To undo addition, use the Subtraction Property of Equality: subtracting the same number from each side of an equation produces an equivalent equation. To undo subtraction, use the Addition Property of Equality: adding the same number to each side of an equation produces an equivalent equation.	Algebra If $a + b = c$, then $a + b - b = c - b$. If $a - b = c$, then $a - b + b = c + b$.
Solving equations using addition or subtraction	
Example $x - 4 = 12$ $\quad +4 \quad +4$ $x = 16$ Check $x - 4 = 12$ $16 - 4 \stackrel{?}{=} 12$ $12 = 12$ \checkmark	Example $x + 4.1 = 12$ $\quad -4.1 \quad -4.1$ $x = 7.9$ Check $x + 4.1 = 12$ $7.9 + 4.1 \stackrel{?}{=} 12$ $12 = 12$ \checkmark

6.

Words To undo multiplication, use the Division Property of Equality: dividing each side of an equation by the same number produces an equivalent equation. To undo division, use the Multiplication Property of Equality: multiplying each side of an equation by the same number produces an equivalent equation.	Algebra If $ab = c$, then $\frac{ab}{b} = \frac{c}{b}$, $b \neq 0$. If $\frac{a}{b} = c$, then $b \cdot \frac{a}{b} = b \cdot c$, $b \neq 0$.
Solving equations using multiplication or division	
Example $-2x = 3$ $\quad -2x = 3$ $\quad -2 \quad -2$ $x = -\frac{3}{2}$, or $-1\frac{1}{2}$ Check $-2x = 3$ $-2(-\frac{3}{2}) \stackrel{?}{=} 3$ $3 = 3$ \checkmark	Example $\frac{x}{2} = -3$ $2 \cdot \frac{x}{2} = 2 \cdot (-3)$ $x = -6$ Check $\frac{x}{2} = -3$ $\frac{-6}{2} \stackrel{?}{=} -3$ $-3 = -3$ \checkmark

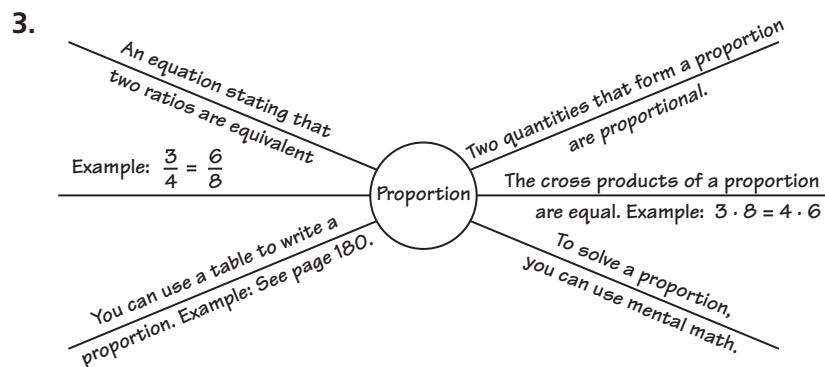
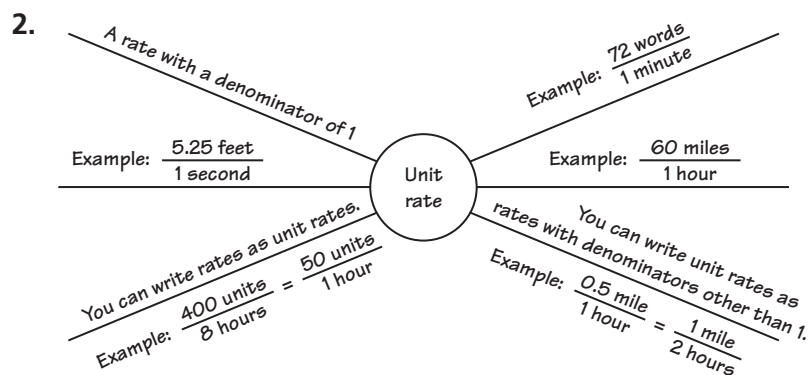
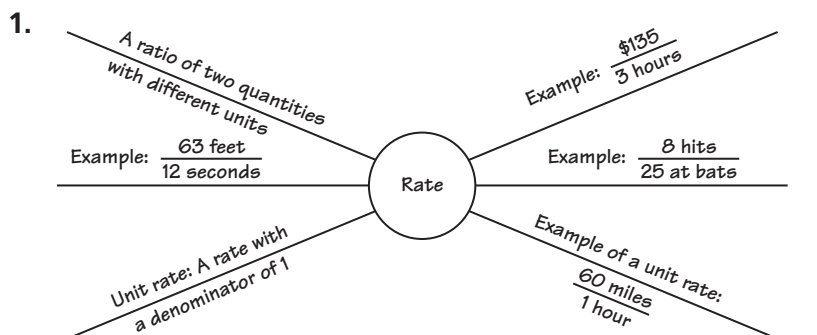
7.

Words Undo the operations in the reverse order of the order of operations: 1. Undo addition or subtraction. 2. Undo multiplication or division. After solving for the variable, check your solution.	Example $3x + 4 = 1$ $\quad -4 \quad -4$ $3x = -3$ $\quad \frac{3x}{3} = \frac{-3}{3}$ $x = -1$ Check $3x + 4 = 1$ $3(-1) + 4 \stackrel{?}{=} 1$ $-3 + 4 \stackrel{?}{=} 1$ $1 = 1$ \checkmark
Solving two-step equations	
Example $\frac{3}{7} - \frac{a}{3} = -\frac{4}{7}$ $\quad -\frac{3}{7} \quad -\frac{3}{7}$ $-\frac{a}{3} = -1$ $-3 \cdot (-\frac{a}{3}) = -3 \cdot (-1)$ $a = 3$ Check $\frac{3}{7} - \frac{a}{3} = -\frac{4}{7}$ $\frac{3}{7} - \frac{3}{3} \stackrel{?}{=} -\frac{4}{7}$ $\frac{3}{7} - 1 \stackrel{?}{=} -\frac{4}{7}$ $-\frac{4}{7} = -\frac{4}{7}$ \checkmark	Example $4(x - 2) = 12$ $4x + (-8) = 12$ $\quad +8 \quad +8$ $4x = 20$ $\quad \frac{4x}{4} = \frac{20}{4}$ $x = 5$ Check $4(x - 2) = 12$ $4(5 - 2) \stackrel{?}{=} 12$ $4(3) \stackrel{?}{=} 12$ $12 = 12$ \checkmark

Chapter 14 Ratios and Proportions

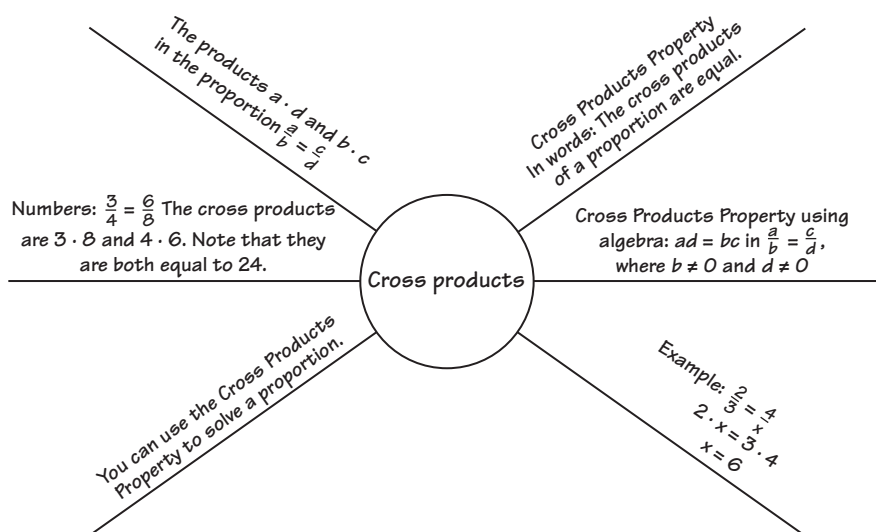
Information Wheel

1–8. Sample answers are given.

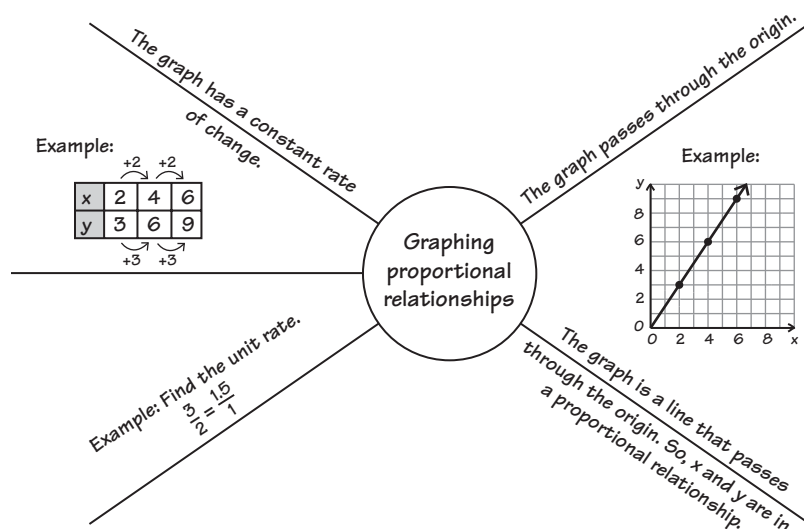


Chapter 14 (continued)

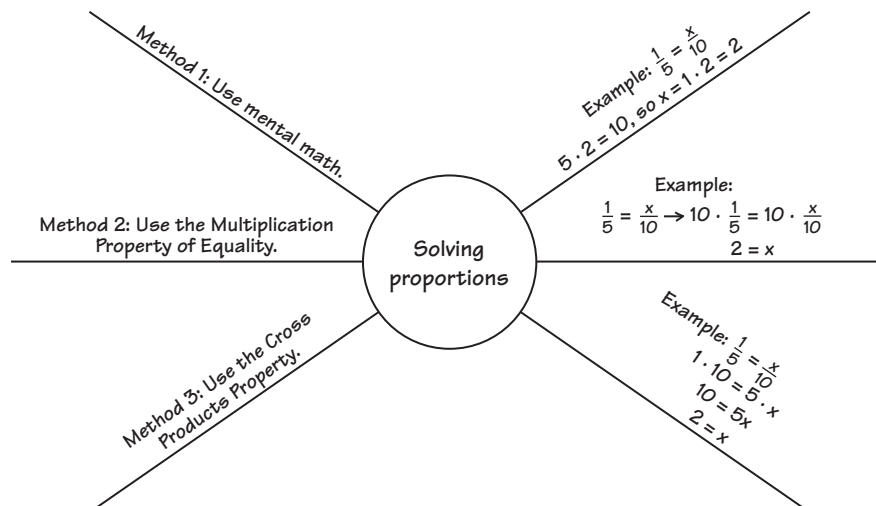
4.



5.

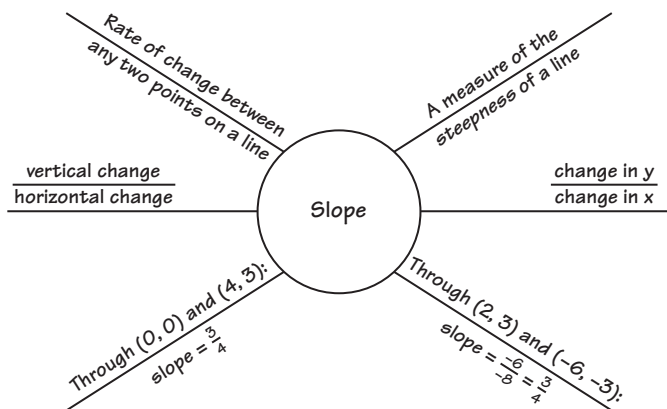


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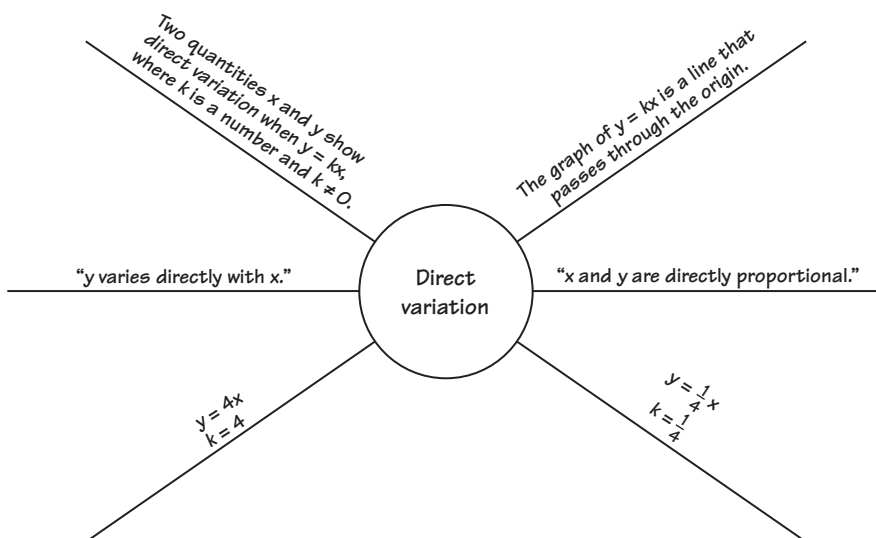


Chapter 14 (continued)

7.



8.

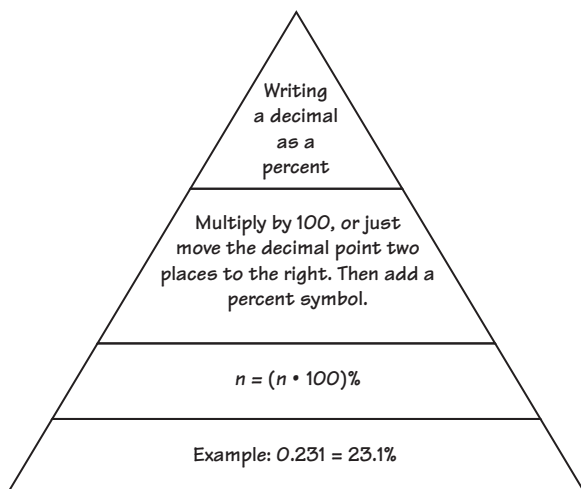


Chapter 15 Percents

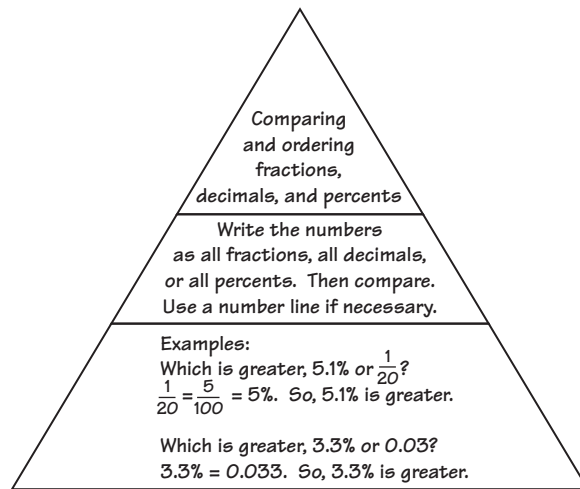
Summary Triangle

1–8. Sample answers are given.

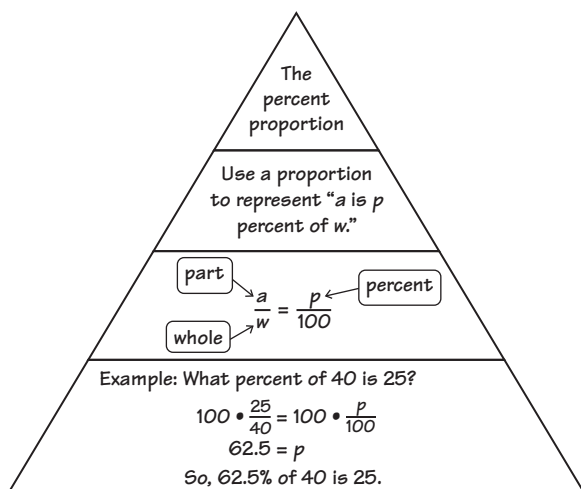
1.



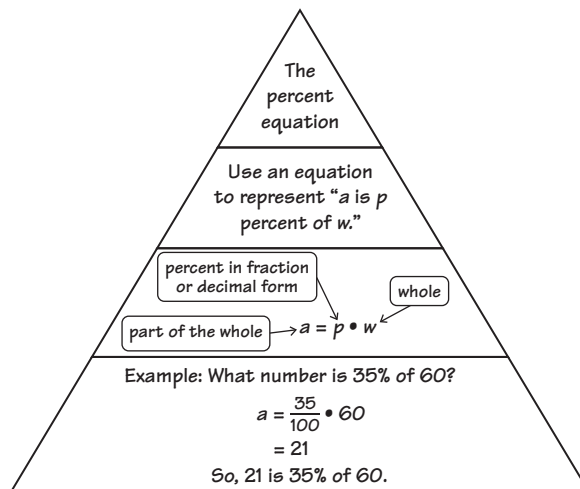
2.



3.

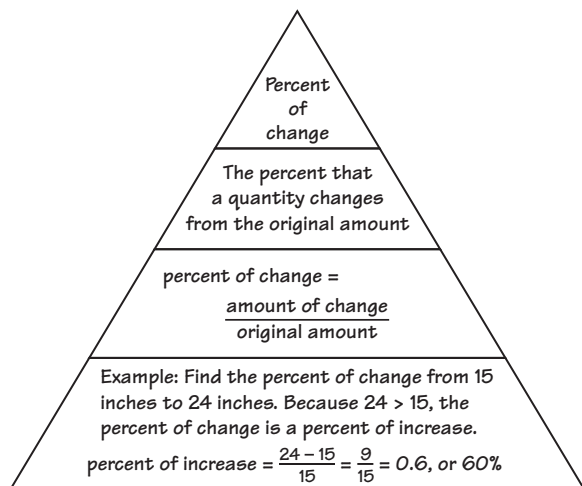


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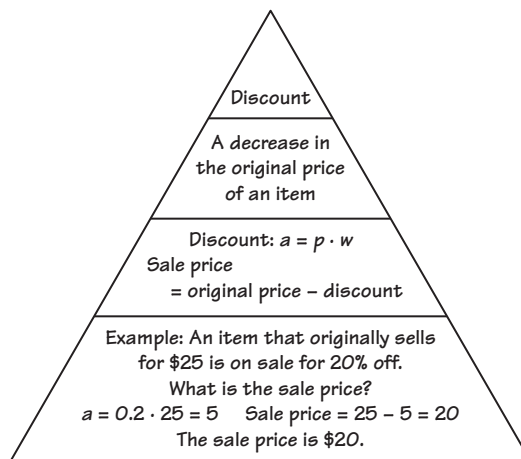


Chapter 15 (continued)

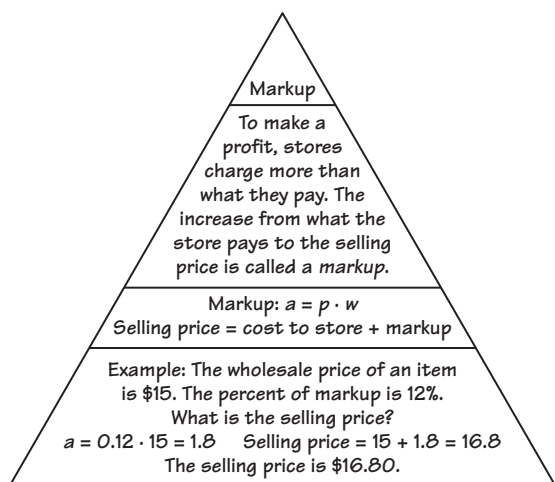
5.



6.



7.



8.

