

CHAPTER 4
MASS, TEMPERATURE, AND VOLUME
4.1 TEMPERATURE CONVERSIONS

BUILD YOUR SKILLS, P. 177

- 176.7°C
- 114.4°C
- 1198.9°C
- Ashley's dog has a temperature of 104°F. This is outside (higher than) the normal range.
- The temperature is 48°F. The paint can be safely applied.
- 103°F
 - Minimum temperature: -47.8°C; maximum temperature: 9.4°C
 - 57.2°C

PRACTISE YOUR NEW SKILLS, P. 179

- 95°F
 - 17.6°F
 - 329°F
 - 69.8°F
 - 40°F
 - 395.6°F
- 28.9°C
 - 26.7°C
 - 190.6°C
 - 16.7°C
 - 17.8°C
 - 18.9°C
- The blowtorch flame is 2372°F. The candle flame is 998.9°C. The blowtorch is hotter than the candle flame, by 542°F or 301.1°C.
- between 93.3°C and 126.7°C
 - between 18.3°C and 37.8°C
 - between 71.1°C and 98.9°C

- The temperature rose from -2.2°F to 71.6°F.
- 5°C
- 77°C
- 1260°C

4.2 MASS IN THE IMPERIAL SYSTEM

BUILD YOUR SKILLS, P. 185

- 12 lb 3 oz
- 17 lb 8 oz
- 5.3 baskets of raspberries, rounded up to 6
- The weight of the load is about 1.6 tons, so it is unsafe and over the acceptable limit of 1.5 tons.
- 28 slabs
- 14.4 tons
- The 2.5-lb jar is the best buy.
- 5.3 skeins, rounded up to 6
- approximately 4693 chocolate bars
- \$2.20/lb
- \$0.08/lb
- \$1.29/oz

PRACTISE YOUR NEW SKILLS, P. 192

- 1.5 lb
 - 3.945 tn
 - 3 lb 6 oz
 - 98 oz
 - 9080 lb
 - 40 lb 14 oz
- 6 lb
- $6\frac{2}{3}$ oz

4. 3425 lb
5. The paint will weigh 13.5 lb, so Harinder can safely paint the structure.
6. a) \$1.67/lb b) \$1.25/12 oz
7. \$1.73/lb

4.3 MASS IN THE SYSTÈME INTERNATIONAL

BUILD YOUR SKILLS, P. 196

1. 5.75 tonnes
2. 414 g
3. a) \$6.27 b) \$17.90
4. about 6.3 oz
5. 3522.4 g
6. 149.6 lb
7. \$4.43
8. 200 g at \$3.85 is the better buy.
9. a) 4.2 mg b) \$8.19

PRACTISE YOUR NEW SKILLS, P. 200

1. a) 2500 kg b) 2800 g
c) 0.125 kg d) 0.0024 kg
e) 2200 lb f) 3272.4 kg
2. 1 tonne (t) \approx 1.1 tons (tn)
3. 3450 g
4. 2045 kg
5. 6.6 lb

6. \$16.61/kg
7. 16 hamburgers

4.4 MAKING CONVERSIONS

BUILD YOUR SKILLS, P. 204

1. a) 67.9 kg b) 149 lb
2. White beans weigh more per unit volume.
3. \$5.33/bu
4. 187 bushels
5. 22.9 tonnes
6. Wheat is approximately twice as heavy as sunflower seeds, per unit volume.
7. about 2.8 kg
8. The sandstone weighs about 4.8 t, so the crane can be used.
9. The total weight of the package is 1.7 kg, so she will be able to send it at the cheaper rate.

PRACTISE YOUR NEW SKILLS, P. 207

1. about 199 bushels
2. Total weight: 5216 kg. This is over the limit, so the load cannot be safely carried.
3. approximately 909 kg
4. about 8 adults
5. 150 mL
6. 23.6 ha

CHAPTER TEST, P. 210

1. a) 77°F b) -3.9°C
 c) -40°C d) -31.7°C
 e) 207.2°C f) 113°F
2. 932°F to 36 032°F
3. a) 196 oz b) 4600 lb
 c) 2 tn 1284 lb d) 60 oz
 e) 10.3 lb f) approximately 1 lb
4. 140 318 trees
5. 1 lb 7 oz
6. 6.25 lb, or 6 lb 4 oz
7. 14 eggs
8. 1571 kg
9. approximately 1.2 tonnes

**CHAPTER 5
 ANGLES AND PARALLEL LINES
 5.1 MEASURING, DRAWING, AND
 ESTIMATING ANGLES**

BUILD YOUR SKILLS, P. 214

1. a) acute b) reflex
 c) obtuse d) acute
 e) straight f) obtuse
 g) reflex h) reflex
2. $\angle A$ measures about 40°.
 $\angle B$ measures about 75°.
 $\angle C$ measures about 65°.
 $\angle D$ measures about 10°.
3. The angle is about 20°.
4. $\angle A$ measures about 140° or 150°.
 $\angle B$ measures about 230° or 240°.
 $\angle C$ measures about 170°.
 $\angle D$ measures about 330°.
5. The angle is about 100°.

6. ANGLE COMPLEMENTS AND SUPPLEMENTS

Angle	Complement	Supplement
45°	$90^\circ - 45^\circ = 45^\circ$	$180^\circ - 45^\circ = 135^\circ$
78°	$90^\circ - 78^\circ = 12^\circ$	$180^\circ - 78^\circ = 102^\circ$
112°	Does not exist, because angle is greater than 90°.	$180^\circ - 112^\circ = 68^\circ$
160°	Does not exist, because angle is greater than 90°.	$180^\circ - 160^\circ = 20^\circ$
220°	Does not exist, because angle is greater than 90°.	Does not exist, because angle is greater than 180°.