


2 Get Ready

- a) 3 to 6, 3:6, $\frac{3}{6}$ b) 6 to 9, 6:9, $\frac{6}{9}$
- a) white balls : black balls
b) black balls : total balls
- a) Yes, because $2 \times 3 = 6$, and $3 \times 3 = 9$.
b) Yes, because $1 \times 4 = 4$, and $5 \times 4 = 20$.
- Answers may vary.
a) $\frac{2}{8}, \frac{3}{12}$ b) $\frac{2}{6}, \frac{8}{24}$
- a) 15, because $8 \times 3 = 24$, and $5 \times 3 = 15$.
b) 15, because $1 \times 5 = 5$, and $3 \times 5 = 15$.
Comparing Quantities: Answers may vary.
For example: I would reuse the $\frac{2}{5}$ number line and number by tens.
- Answers may vary. $\frac{14}{28}, \frac{2}{4}, \frac{7}{14}$
- a) 10 b) 3

21 Two-Term and Three-Term Ratios

- a) **False** A part-to-part ratio compares different parts of a group.
b) **True**
c) **False** A part-to-whole ratio can be written as a fraction, decimal, or percent.
For example, the ratio of flowers to leaves is $\frac{8}{12}$ or $\frac{2}{3}$, $0.\overline{66}$, $66.\overline{6}\%$
d) **True**
e) **False** A two-term ratio compares two quantities measured in the same units.
- a) 3:9, 1:3 b) 23:9:32
c) 5:15, 1:3 d) 8:6, 4:3
e) 10:20; 1:2 f) 16:20, 4:5
- a) $\frac{1}{3} = \frac{2}{6}$ b) $\frac{2}{3} = \frac{10}{15}$ c) $\frac{5}{6} = \frac{10}{12}$ d) $\frac{40}{50} = \frac{80}{100}$
- Answers may vary. Example:
a)  b) 9:3
c) 9:12, 3:12 d) $\frac{3}{4}, \frac{1}{4}$
- Answers may vary. Example:
a) hats : coats b) coats : hooks : hats
c) hooks : coats d) hooks : whole

- a) 8:28 b) 20:8
- 0.18:0.35:0.47

22 Rates

- a) different b) fraction, percent
c) one d) price
- a) 16.67 km/h b) 66 words/minute
c) 54 students/bus d) 23 apples/bag
e) \$9/h f) 88 km/h
- a) \$7/h, $\boxed{\$9.90/h}$ b) 82 km/h, $\boxed{84 \text{ km/h}}$
c) $\boxed{4 \text{ h/day}}$, 3 h/day
- 9 L/100 km
- a) Vanilla \$0.00745/g, Berry \$0.00598/g,
Peach \$0.0049875/g
b) Vanilla \$0.745 /100 g, Berry \$0.598/100 g,
 $\boxed{\text{Peach } \$0.49875/100 \text{ g}}$
c) The largest (peach) container costs the least money per gram.
- a) Methods will vary. Example:
 $\frac{1365}{6} = \frac{x}{12}$, $x = \$2730$
b) \$5.25/h
- a) Canada 3.36, Ecuador 45.19, France 108.02, Netherlands 464.94, USA 29.77
b) Netherlands, France, Ecuador, USA, Canada
c) Yes, because it compares two quantities measured in different units.

23 Proportional Reasoning

- ratios, equal
- a) proportion, \$15 b) unit rate, \$15
- a) 25 km/h b) \$0.25/pencil
c) 5 m/s d) \$2/kg
- a) 3 b) 3 c) 25 d) 12
- a) 8 roses b) 760 km
- a) $\frac{40 \text{ cm}}{20 \text{ cm}} = \frac{50 \text{ cm}}{25 \text{ cm}}$
b) $\frac{60 \text{ mL}}{600 \text{ mL}} = \frac{100 \text{ mL}}{1000 \text{ mL}}$
c) $\frac{9.4 \text{ L}}{100 \text{ km}} = \frac{56.4 \text{ L}}{600 \text{ km}}$