

Student Text *UNIT 5 Ratio and Proportion*

Answers

5.1 Simple Ratios

1. (a) 2 : 1 (b) 4 : 1 (c) 1 : 2 (d) 3 : 4
 (e) 1 : 6 (f) 4 : 21 (g) 1 : 6 (h) 1 : 3
 (i) 2 : 25 (j) 1 : 8 (k) 4 : 5 (l) 7 : 5
 (m) 27 : 16 (n) 8 : 25 (o) 50 : 49 (p) 4 : 1
 (q) 3 : 1 (r) 2 : 7
2. (a) 15 : 16 (b) 16 : 15
3. (a) 10 : 7 (b) 7 : 10
4. (a) 1 : 3 and 1 : 2 (b) Company A
5. (a) 5 : 9 (b) 11 : 18
6. (a) 3 : 2 (b) 1 : 4
7. 3 : 17
8. (a) 9 : 11 (b) 3 : 7 (c) 10 : 9
9. (a) 800 cm³ (b) 160 cm³ (c) 40 cm³
10. 240
11. 24 + 2 = 26
12. 80
13. 135

5.2 Proportion and Ratio

1. 12 cm
2. (a) 125 gms (b) 160 gms
3. (a) 161 (b) 48
4. (a) J\$45 (b) J\$675 (c) J\$990
5. (a) J\$910 (b) J\$2600 (c) J\$260
6. (a) J\$285 (b) J\$684 (c) J\$39.9 (J\$40)
7. (a) 500 gms (b) 13
8. (a) \$23.60 (b) about 16.95 litres
9. (a) 4, 2, 1 (b) $5, \frac{5}{2}, \frac{5}{4}$ (c) $\frac{3}{2}, \frac{3}{4}, \frac{3}{8}$ (teaspoonsful)
10. (a) 5 days (b) 5 days (c) 3 men (2.5)
11. (a) 20 teachers (b) 616 teachers
12. (a) $2\frac{1}{2}$ hours (b) 300 boxes
13. (a) 9 hours (b) 20mins (c) 4
14. Employ 7 people and it takes 2 days

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5.2

15. J\$425
16. 3, 6, 6, $7\frac{1}{2}$
17. (a) 9 litres (b) (i) 160 g (c) (ii) 150
18. 4.5 cm
19. (a) 6 kg (b) J\$64
20. Small, as the unit cost = J\$0.324 (< J\$0.350 for large)

5.3 Map Scales and Ratios (measurements of some distances may vary according to print size)

1. (a) 85 km (b) 60 km (c) 55 km (d) 145 km
2. 136 km, 148 km, 52 km, 72 km
3. 42 km
4. 1875 km
5. (a) 27 cm (b) 81 cm (c) 16.2 cm
6. 18 km; 30 cm
7. (a) 16.5 km (b) 33 cm
8. (a) 1 : 400 000 (b) 1 : 40 000
(c) 1 : 60 000 (d) 1 : 480 000
9. 1 : 350 000 (a) 1 : 700 000 (b) 1 : 525 000 (c) 1 : 393 750
10. 141 m
11. (a) 1 : 540 000 (b) about 19.5 km
12. 0.1125 km^2

5.4 Proportional Division

1. 2 litres of oxygen, 8 litres of nitrogen
2. 18 boys, 45 girls
3. Ben - 80, Cheryll - 60
4. (a) J\$705, J\$564 (b) J\$1865, J\$1492 (c) J\$1333, J\$1067
5. (a) 500 g, 300 g, (b) 125 g, 75 g (c) 187.5 g, 112.5 g
6. J\$25 000, J\$30 000, J\$45 000
7. \$8000, \$6000, \$4000, \$2000
8. Ahmed: 90, Afzal: 150
9. apples: 2kg; bananas: 2.4 kg; oranges: 1.6 kg
10. 40
11. 50 g