

# Practice Book *UNIT 4 Rounding and Estimating* **Answers**

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## 4.1 Revision of the Four Rules: Whole Numbers

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|-----|---------|---------|----------|----------|----------|----------|
| 1.  | (a) 29  | (b) 46  | (c) 79   | (d) 174  | (e) 349  | (f) 557  |
| 2.  | (a) 138 | (b) 123 | (c) 348  | (d) 239  | (e) 782  | (f) 1112 |
| 3.  | (a) 12  | (b) 44  | (c) 51   | (d) 15   | (e) 219  | (f) 551  |
| 4.  | (a) 157 | (b) 511 | (c) 42   | (d) 188  | (e) 786  | (f) 3452 |
| 5.  | (a) 36  | (b) 55  | (c) 46   | (d) 93   | (e) 88   | (f) 606  |
| 6.  | (a) 95  | (b) 344 | (c) 234  | (d) 189  | (e) 387  | (f) 520  |
| 7.  | (a) 902 | (b) 444 | (c) 1638 | (d) 1242 | (e) 2074 | (f) 5655 |
| 8.  | (a) 34  | (b) 16  | (c) 41   | (d) 169  | (e) 52   | (f) 201  |
| 9.  | (a) 12  | (b) 60  | (c) 20   | (d) 42   | (e) 30   | (f) 15   |
| 10. | (a) 261 | (b) 441 | (c) 91   | (d) 1548 | (e) 183  | (f) 816  |

## 4.2 Revision of the Four Rules: Decimals

- |    |          |          |           |           |           |           |
|----|----------|----------|-----------|-----------|-----------|-----------|
| 1. | (a) 7.7  | (b) 48.7 | (c) 5.3   | (d) 17.91 | (e) 19.02 | (f) 3.752 |
| 2. | (a) 4.3  | (b) 14.2 | (c) 2.4   | (d) 3.7   | (e) 6.28  | (f) 2.03  |
| 3. | (a) 8.6  | (b) 14   | (c) 44.4  | (d) 43.4  | (e) 164.7 | (f) 28.1  |
| 4. | (a) 3.4  | (b) 21.3 | (c) 13.1  | (d) 15.1  | (e) 14.2  | (f) 25.3  |
| 5. | (a) 21.1 | (b) 57.6 | (c) 4.79  | (d) 70.4  | (e) 796.2 | (f) 5.23  |
| 6. | (a) 1.68 | (b) 3.45 | (c) 1.008 | (d) 31.96 | (e) 2.592 | (f) 7.462 |
| 7. | (a) 62   | (b) 149  | (c) 18    | (d) 2.1   | (e) 500   | (f) 2.1   |
| 8. | (a) 54   | (b) 7.83 | (c) 4.34  | (d) 0.544 | (e) 1.05  | (f) 7.437 |

## 4.3 Order of Operations

- |    |                             |                             |                              |           |        |
|----|-----------------------------|-----------------------------|------------------------------|-----------|--------|
| 1. | (a) 20                      | (b) 2                       | (c) 7                        | (d) 9     | (e) 25 |
|    | (f) 35                      | (g) 61                      | (h) 15                       | (i) 25    | (j) 9  |
| 2. | (a) T                       | (b) F, 35                   | (c) F, 21                    | (d) F, 24 |        |
|    | (e) F, 7                    | (f) T                       | (g) F, 46                    | (h) F, 56 |        |
| 3. | (a) $3 \times (6 + 1) = 21$ | (b) $(5 + 6) \times 2 = 22$ | (c) $45 \div (6 + 3) = 5$    |           |        |
|    | (d) $49 - (3 + 2) = 44$     | (e) $7 \times (3 + 2) = 35$ | (f) $(13 - 4) \times 2 = 18$ |           |        |
| 4. | (a) 5                       | (b) 6                       | (c) 6                        | (d) 3     | (e) 2  |
|    |                             |                             |                              |           | (f) 12 |

## 4.3

## Answers

5. (a) Jane has forgotten to use brackets. Correct answer is 34.  
 (b)  $(4 \times 7 + 2) \times 3 = 90$
6. (a) No (b)  $30 \div 6 - (3 + 1) = 1$  (c)  $30 \div (6 - 3) + 1 = 11$
7. (a) T (b) T (c) F (d) F
8. (a)  $13 - (4 - 1) = 10$  (b)  $30 - (9 + 2) = 19$  (c)  $60 \div (6 \div 3) = 30$
9. (a) 40.9 (b) 0.62 (c) 4.92 (d) 2.06
10. (a) 4 (b) 3 (c) 0.8 (d) 0.9

## 4.4 Problems in Context

1. (a) £3.75 (b) £17.50
2. 5; £3 change
3. £209.70;  $30 \times £7.00 - 30p$
4. 42 (and £6 left)
5. (a) £19 (b) £23.48
6. 7
7. £5.25
8. £13.25
9. 19; 5 left over
10. £6.06

## 4.5 Rounding

1. (a) 4 (b) 2 (c) 17 (d) 4 (e) 33 (f) 19
2. (a) 190 (b) 310 (c) 10 (d) 40 (e) 40 (f) 20
3. (a) 36 000 (b) 36 500 (c) 36 480
4. (a) 4.26 (b) 0.05 (c) 10.84 (d) 82.06 (e) 3.45 (f) 9.40
5. (a) 1.5 (b) 6.3 (c) 3.2 (d) 11 (e) 140 (f) 1400
6. (a) 8.646 (b) 8.6457 (c) 8.6
7. (a) 147.5 (b) 148 (c) 150 (d) 100
8. (a) 105 (b) 104.74 (c) 100 (d) 104.7 (e) 100

## 4.5

## Answers

9. (a) 18.5 (b) 0.00327 (c) 147 000  
 (d) 63.0 (e) 0.0362 (f) 0.000369

10. *No.* *Statement*  
 0.047 2 s.f.  
 0.003 3 d.p.  
 16.22 2 d.p.  
 184 200 4 s.f.  
 7.06 3 s.f.

## 4.6 Estimating

1.	<i>Estimate *</i>	<i>Calculator</i>
(a)	$5 \times 8 = 40$	39.198
(b)	$10 \times 21 = 210$	205.728
(c)	$11 \times 8 = 88$	91.9092
(d)	$18 \times 110 = 1980$	1976.4
(e)	$100 \times 75 = 7500$	7220
(f)	$15 \times 25 = 375$	383.46

2.  $8 \times 50 = 400$  \*

3. (a)  $3.5 \times 5 = 17.5 \text{ m}^2$  \* (b)  $17.0392 \text{ m}^2$  (c) Comparison acceptable

4.  $20 \times 40\text{p} = \text{£}8.00$  \*

5. A, B, D and E all incorrect

6. (a) 4 or 5 \* (b) 7 or 8 \* (c) 40 \* (d) 700 \* (e) 2 \* (f) 25 \*

7.  $\text{£}150$  \*

8. 48 litres \*

9. (a) 30 litres \* (b) 29.16 litres (c) Estimate acceptable

10.  $\text{£}20 \times 26500 = \text{£}530000$  \*

\* other acceptable answers

## Answers

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### 4.7 Calculator Logic

1. (a) 45.9 (b) 6.27 (3 s.f.) (c) 7.67 (3 s.f.) (d) 5.57 (3 s.f.)  
(e) 1.08 (3 s.f.) (f) 1.21 (3 s.f.)
2. (a) 0.509 (3 s.f.) (b) 0.522 (3 s.f.) (c) 3.05 (3 s.f.) (d) 0.155 (3 s.f.)
3. (a) 8.375 (b) 2.82 (c) 8.660 (3 d.p.) (d) 3.975 (3 d.p.)
4. (a) 12 (b) 12.01
5. (a) 0.6 (b) Failed to use brackets when dividing; he did  $\frac{6}{8} + 2$
6. (a) No (b) No (c) Yes (d) No, if you pressed  $\boxed{=}$  after '6';  
Yes, if you didn't.
7. (a) 7.88 (2 d.p.) (b) 7.9 (2 s.f.)
8. (a)  $\frac{6}{8-7+2}$  (b)  $4 + 7 \times (9 + 4)$  (c)  $\frac{4}{8-5} + 6$  (d)  $1 + \frac{7 \times (8-3)}{(2+9)}$
9. (a) 2.45 (b) 1.05 (3 s.f.) (c) 0.861 (3 s.f.)