

## CoEA Module 2

## Mental Tests

**Test 8.1** (*no calculator*)

1.  $10 + 5$  (15)
2.  $22 + 15$  (37)
3.  $125 + 35$  (160)
4.  $47 - 23$  (24)
5.  $152 + 123$  (275)
6.  $58 - 39$  (19)
7.  $266 + 37$  (303)
8.  $122 - 15$  (107)
9.  $274 + 132$  (406)
10.  $247 - 124$  (123)

**Test 8.2** (*no calculator*)

1.  $20 + 7$  (27)
2.  $33 + 12$  (45)
3.  $25 + 152$  (177)
4.  $59 - 36$  (23)
5.  $161 + 127$  (288)
6.  $65 - 36$  (29)
7.  $253 + 28$  (281)
8.  $247 - 24$  (223)
9.  $383 + 126$  (509)
10.  $256 - 125$  (131)

**Test 8.3** (*no calculator*)

1.  $2 \times 12$  (24)
2.  $6 \times 7$  (42)
3.  $3 \times 15$  (45)
4.  $7 \times 8$  (56)
5.  $4 \times 22$  (88)
6.  $8 \times 9$  (72)
7.  $5 \times 32$  (160)
8.  $8 \times 8$  (64)
9.  $2 \times 41$  (82)
10.  $9 \times 10$  (90)

**Test 8.4** (*no calculator*)

1.  $2 \times 14$  (28)
2.  $6 \times 9$  (54)
3.  $3 \times 22$  (66)
4.  $8 \times 7$  (56)
5.  $4 \times 41$  (164)
6.  $9 \times 9$  (81)
7.  $5 \times 51$  (255)
8.  $8 \times 10$  (80)
9.  $3 \times 21$  (63)
10.  $10 \times 10$  (100)

## CoEA Module 2

## Mental Tests

**Test 8.5** (*no calculator*)

- |     |              |      |
|-----|--------------|------|
| 1.  | $20 \div 2$  | (10) |
| 2.  | $21 \div 3$  | (7)  |
| 3.  | $16 \div 4$  | (4)  |
| 4.  | $46 \div 2$  | (23) |
| 5.  | $18 \div 3$  | (6)  |
| 6.  | $60 \div 5$  | (12) |
| 7.  | $100 \div 2$ | (50) |
| 8.  | $24 \div 3$  | (8)  |
| 9.  | $20 \div 4$  | (5)  |
| 10. | $36 \div 2$  | (18) |

**Test 8.6** (*no calculator*)

- |     |             |      |
|-----|-------------|------|
| 1.  | $15 \div 3$ | (5)  |
| 2.  | $30 \div 2$ | (15) |
| 3.  | $12 \div 4$ | (3)  |
| 4.  | $25 \div 5$ | (5)  |
| 5.  | $84 \div 2$ | (42) |
| 6.  | $30 \div 3$ | (10) |
| 7.  | $24 \div 4$ | (6)  |
| 8.  | $58 \div 2$ | (29) |
| 9.  | $40 \div 5$ | (8)  |
| 10. | $27 \div 3$ | (9)  |

**Test 11.1** (*no calculator*)

Describe the probability of each of the following events, using the terms

*impossible*    *unlikely*    *even chance*    *likely*    *certain*

1. The train from Newcastle will be on time.
2. The weather will be sunny tomorrow.
3. Manchester United will win the football Premier League title next year.
4. Exeter City will win the football F A Cup Final next year.
5. You will throw *four* consecutive heads using an unbiased coin.
6. You will obtain exactly *one head* when throwing an unbiased coin twice.
7. Tony Blair will be Prime Minister on January 1, 2000.
8. Margaret Thatcher will be Prime Minister on January 1, 2000.
9. The capital city of England is London.
10. Next year is a leap year.

## CoEA Module 2

## Mental Tests

**Test 12.1** (*no calculator*)

What is the largest number in each of the sets?

1. { 2.2, 2.7, 2.5 } (2.7)
2. { 4.5, 4.19, 4.05 } (4.5)
3. { 7.15, 3.9, 6.99 } (7.15)

What is the smallest number in each of the sets?

4. { 3.7, 3.3, 3.5 } (3.3)
5. { 5.19, 5.3, 5.08 } (5.08)
6. { 10.5, 7.9, 6.8 } (6.8)

Write down a one decimal place number which lies between

7. 8.5 and 8.7. (8.6)
8. 3.9 and 4.1. (4.0)

Write down a two decimal place number which lies between

9. 1.25 and 1.27. (1.26)
10. 6.08 and 6.10. (6.09)

**Test 12.2** (*no calculator*)

What is the change from £10 when you buy

1. one tape costing £8.00 (£2)
2. a video costing £5.50 (£4.50)
3. a CD costing £6.99 (£3.01)
4. a present costing £3.75 ? (£6.25)

What is the total cost of

5. two meals costing £3.50 and £2.50 (£6.00)
6. two tickets, one £3.75 and the other £3.50 (£7.25)
7. two train fares, one £6.50 and the other £3.25 (£9.75)
8. two T-shirts, one £8.00 and the other £9.00 (£17.00)
9. two books, one costing £3.60 and the other £5.50 ? (£9.10)
10. What is the change from £5 when you buy a card costing £1.25 and a present costing £2.50 ? (£1.25)

## CoEA Module 2

## Mental Tests

**Test 12.3** (*no calculator*)

What is the change from £5 when you buy

- |    |                                  |         |
|----|----------------------------------|---------|
| 1. | a bar of chocolate costing £3.50 | (£1.50) |
| 2. | a meal costing £2.99             | (£2.01) |
| 3. | a football costing £4.25         | (75p)   |
| 4. | a tape costing £3.80             | (£1.20) |
| 5. | a book costing £2.25 ?           | (£2.75) |

What is the total cost of

- |     |   |         |
|-----|---|---------|
| 6.  | two tickets, each costing £4.50   | (£9.00) |
| 7.  | two magazines costing £2.25 and £3.25   | (£5.50) |
| 8.  | two bus fares costing £1.40 and £1.65   | (£3.05) |
| 9.  | two presents costing £2.35 and £5.55 ?  | (£7.90) |
| 10. | What is the change from £20 when you buy two videos costing £8.00 and £6.50 ? | (£5.50) |

**Test 12.4** (*no calculator*)

What is

- |     |                     |      |
|-----|---------------------|------|
| 1.  | $\frac{1}{2}$ of 10 | (5)  |
| 2.  | $\frac{1}{2}$ of 12 | (6)  |
| 2.  | $\frac{1}{4}$ of 8  | (2)  |
| 4.  | $\frac{1}{4}$ of 12 | (3)  |
| 5.  | $\frac{1}{2}$ of 20 | (10) |
| 6.  | $\frac{3}{4}$ of 8  | (6)  |
| 7.  | $\frac{1}{4}$ of 20 | (5)  |
| 8.  | $\frac{1}{2}$ of 8  | (4)  |
| 9.  | $\frac{1}{4}$ of 20 | (5)  |
| 10. | $\frac{3}{4}$ of 12 | (9)  |

**Test 12.5** (*no calculator*)

What is

- |     |                     |      |
|-----|---------------------|------|
| 1.  | $\frac{1}{2}$ of 14 | (7)  |
| 2.  | $\frac{1}{2}$ of 40 | (20) |
| 3.  | $\frac{1}{4}$ of 24 | (6)  |
| 4.  | $\frac{1}{4}$ of 40 | (10) |
| 5.  | $\frac{1}{2}$ of 30 | (15) |
| 6.  | $\frac{3}{4}$ of 16 | (12) |
| 7.  | $\frac{1}{2}$ of 6  | (3)  |
| 8.  | $\frac{3}{4}$ of 20 | (15) |
| 9.  | $\frac{1}{2}$ of 10 | (5)  |
| 10. | $\frac{1}{4}$ of 28 | (7)  |

## CoEA Module 2

## Mental Tests

**Test 12.6** (*no calculator*)

1.  $7\text{ }^{\circ}\text{C} - 5\text{ }^{\circ}\text{C} = ?$  (2  $^{\circ}\text{C}$ )
2.  $4\text{ }^{\circ}\text{C} - 7\text{ }^{\circ}\text{C} = ?$  (-3  $^{\circ}\text{C}$ )
3.  $-4\text{ }^{\circ}\text{C} + 7\text{ }^{\circ}\text{C} = ?$  (3  $^{\circ}\text{C}$ )
4.  $-2\text{ }^{\circ}\text{C} - 4\text{ }^{\circ}\text{C} = ?$  (-6  $^{\circ}\text{C}$ )
5. The temperature at midday in London was 12  $^{\circ}\text{C}$ . At midnight it was 4  $^{\circ}\text{C}$ .  
By how many degrees had the temperature fallen? (8  $^{\circ}\text{C}$ )
6. The temperature in the afternoon in New York was 16  $^{\circ}\text{C}$ . By midnight  
it had dropped by 9  $^{\circ}\text{C}$ . What was the temperature at midnight? (7  $^{\circ}\text{C}$ )
7. The temperature at midday in Moscow was 5  $^{\circ}\text{C}$ . At midnight it was -7  $^{\circ}\text{C}$ .  
By how many degrees had the temperature fallen? (12  $^{\circ}\text{C}$ )
8. The temperature at midday in Budapest was 7  $^{\circ}\text{C}$ . By midnight it had dropped  
by 9  $^{\circ}\text{C}$ . What was the temperature at midnight? (-2  $^{\circ}\text{C}$ )
9. The temperature in a freezer is -4  $^{\circ}\text{C}$ . On 'superfreeze' it is reduced by a  
further 5  $^{\circ}\text{C}$ . What is the temperature on 'superfreeze'? (-9  $^{\circ}\text{C}$ )
10. The temperature in a freezer was -3  $^{\circ}\text{C}$ . On 'superfreeze' it was -7  $^{\circ}\text{C}$ .  
By how many degrees had the temperature fallen? (4  $^{\circ}\text{C}$ )

**Test 12.7** (*no calculator*)

1. Which is the smallest number in the set?  
{ -4, 5, -8, 9 } (-8)
2. Which is the largest number in the set?  
{ 0, -3, -7, 2 } (2)

Put these numbers in order, smallest first.

3. 5, -3, 2, -4 { -4, -3, 2, 5 }
4. 0, -1, 3, -4 { -4, -1, 0, 3 }
5. -1, 2, -5, -3 { -5, -3, -1, 2 }
6. 7, -4, 4, -7 { -7, -4, 4, 7 }

Put these numbers in order, largest first.

7. -1, 4, 0, -5 { 4, 0, -1, -5 }
8. -3, -10, -5, -1 { -1, -3, -5, -10 }
9. -4, -8, -1, -6 { -1, -4, -6, -8 }
10. -5, 9, 3, -2 { 9, 3, -2, -5 }