ANSWER KEY – BEDMAS Test

Part A: 3-Step Questions (1 mark each)

1. 30

   $9 + (14 \div 2) \times 3$

   $= 9 + 7 \times 3$

   $= 9 + 21$

   $= 30$

2. 42

   $(20 - 8) \times 3 + 6$

   $= 12 \times 3 + 6$

   $= 36 + 6$

   $= 42$

3. 30

   $7 \times (5 + 1) - 12$

   $= 7 \times 6 - 12$

   $= 42 - 12$

   $= 30$

4. 17

   $15 \div 3 + (10 - 4) \times 2$

   $= 5 + 6 \times 2$

   $= 5 + 12$

   $= 17$

Part B: 4-Step Questions (1 mark each)

5. 20

   $(24 \div 6 + 3) \times 4 - 8$

   $= (4 + 3) \times 4 - 8$

   $= 7 \times 4 - 8$

   $= 28 - 8$

   $= 20$

6. 18.5

   $12 + (9 \times 2 - 5) \div 2$

   $= 12 + (18 - 5) \div 2$

   $= 12 + 13 \div 2$

   $= 12 + 6.5$

   $= 18.5$

Part C: 6-Step Questions (1 mark each)

7. 18

   $(10 + 16 \div 4) \times 2 - (7 + 3)$

   $= (10 + 4) \times 2 - 10$

   $= 14 \times 2 - 10$

   $= 28 - 10$

   $= 18$

8. 49

$60 – [(15 \div 3) + (8 \times 2)] + 10$

$= 60 – (5 + 16) + 10$

$= 60 – 21 + 10$

$= 39 + 10$

$= 49$

Part D: 3-Step Questions with Decimals (1 mark each)

9. 8.1

$8.4 + (4.5 \times 1.2) – 5.7$

$= 8.4 + 5.4 – 5.7$

$= 13.8 – 5.7$

$= 8.1$

10. 13.6

$(13.8 – 6.4) + 2 + 4.2$

$= 7.4 + 2 + 4.2$

$= 9.4 + 4.2$

$= 13.6$

Part E: 6-Step Questions with Decimals (1 mark each)

11. 18.62

$(9.2 + 2.3) + 5.6 – 1.4 \times 3.2 + 6$

$= 11.5 + 5.6 – 4.48 + 6$

$= 17.1 – 4.48 + 6$

= 12.62 + 6

= 18.62

12. 46.93

6.5 × (3.1 + 1.9) – 4.2 + 2.3 × 8.1

= 6.5 × 5 – 4.2 + 18.63

= 32.5 – 4.2 + 18.63

= 28.3 + 18.63

= 46.93

Part F: Error Identification and Correction (2 marks each)

13. 16 ÷ 2 × 4 = 32

This is actually correct.

Students often think they must do multiplication before division, but division and multiplication are completed left to right.

Correct work:

16 ÷ 2 = 8

8 × 4 = 32

Error Explanation:

Students might incorrectly do 16 ÷ (2 × 4) = 2, but the correct order is left to right, giving 32.

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14. (7 + 5) ÷ 2 – 3 = 6

Correct calculation:

(7 + 5) ÷ 2 – 3

= 12 ÷ 2 – 3

= 6 – 3

= 3

Error Explanation:

The student stopped too early after finding 12 ÷ 2 = 6 and forgot to subtract the 3.

They did not finish the last step.