

## BIDMAS - Worksheet

### Skill

#### Group A - Four operations

Work out:

**1)**  $20 + 5 \times 3$

**2)**  $20 \times 5 + 3$

**3)**  $20 - 5 \times 3$

**4)**  $20 \times 5 - 3$

**5)**  $20 \div 5 + 3$

**6)**  $20 \div 5 - 3$

**7)**  $20 + 5 - 3$

**8)**  $20 - 5 + 3$

**9)**  $20 \div 5 \times 3$

**10)**  $20 \times 8 \div 4$

**11)**  $20 + 8 \div 4$

**12)**  $20 - 8 \div 4$

---

#### Group B - Brackets and indices

Work out:

**1)**  $20 + (5 \times 3)$

**2)**  $(20 + 5) \times 3$

**3)**  $(20 - 5) \times 3$

**4)**  $20 \div (5 - 3)$

**5)**  $20 + (5 - 3)$

**6)**  $20 \times (8 \div 4)$

**7)**  $(20 + 8) \div 4$

**8)**  $20 + 5 \times 3^2$

**9)**  $20 + 5^2 \times 3$

**10)**  $20 \times 5 + 3^2$

**11)**  $20 \times (5 + 3)^2$

**12)**  $20 \times 5 + 3^3$

---

#### Group C - All operations and fractions

Work out:

**1)**  $4 \times 5 + 3 \times 2$

**2)**  $4 \times 5 - 3 \times 2$

**3)**  $4 \times 5 + (3 \times 2)^2$

**4)**  $4 \times 5^2 + (3 \times 2)^2$

**5)**  $30 \div 5 + (3 + 2)^2$

**6)**  $30 \div 5 + (6 - 2)^2$

**7)**  $4 \times 5 \div 2 \times 3$

**8)**  $\frac{3+7}{6-4}$

**9)**  $\frac{5 \times 6}{6 + 4}$

**10)**  $\frac{(5 \times 6)^2}{6 + 4}$

**11)**  $\frac{5 + 6^2}{6 - 4}$

**12)**  $\left(\frac{5 \times 6}{6 + 4}\right)^2$

## BIDMAS - Worksheet

### Applied

- 1) (a) Sarah works out a solution to the calculation below:

$$15 - 4 + 7$$

Her solution is 4.

Identify the error she has made and work out the correct solution.

- (b) Jasmine works out a solution to the calculation below:

$$3 \times 4^2$$

Her solution is 144.

Identify the error she has made and work out the correct solution.

- 2) (a) Insert brackets to make this calculation correct.

$$5 + 2 \times 6 - 1 = 35$$

- (b) Insert brackets to make this calculation correct.

$$10 - 3^2 + 2 = 51$$

- 3) (a) Insert the correct operations into the boxes below to make this calculation correct.

$$10 \_ 7 \_ 2 = 24$$

- (b) Insert the correct operations into the boxes below to make this calculation correct.

$$20 \_ 8 \_ 2 = 16$$

## BIDMAS - Worksheet

4) Match the equivalent calculations

|                              |  |                |
|------------------------------|--|----------------|
| $21 \times 12 + 3 \times 12$ |  | $2 \times 12$  |
| $12(4 + 3)$                  |  | $24 \times 12$ |
| $72 \div 6 + 36 \div 3$      |  | $12 \times 12$ |
| $14 \times 12 - 2 \times 12$ |  | $7 \times 12$  |

## BIDMAS - Exam Questions

- 1) (a) Work out  $8 + 3 \times 5$

.....  
(1)

- (b) Work out  $10^2 - 12 \div 3$

.....  
(2)  
(3 marks)

- 
- 2) Write brackets ( ) in this statement to make each statement correct. You may use more than one pair of brackets in each statement.

(a)  $7 + 2 \times 4 = 36$

(1)

(b)  $6 \times 8 \div 2 + 4 = 8$

(1)  
(2 marks)

- 
- 3) Here is a calculation:  $15 + 4 \times 3^2$

Ahmed calculates the answer to be 159.  
Is Ahmed correct? Explain your reasons.

.....  
(2 marks)

---

4) Work out:  $\frac{10 + 5^2}{0.5 \times 14}$

.....  
(2 marks)

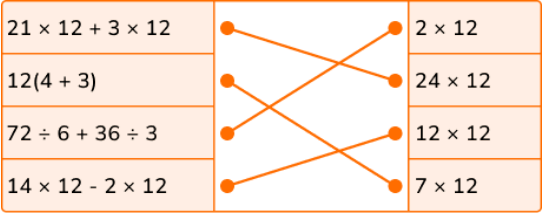
# BIDMAS - Answers

|         | Question   | Answer   |
|---------|--|--|
|         | Skill Questions  |  |
| Group A | Work out:<br><b>1)</b> $20 + 5 \times 3$<br><b>2)</b> $20 \times 5 + 3$<br><b>3)</b> $20 - 5 \times 3$<br><b>4)</b> $20 \times 5 - 3$<br><b>5)</b> $20 \div 5 + 3$<br><b>6)</b> $20 \div 5 - 3$<br><b>7)</b> $20 + 5 - 3$<br><b>8)</b> $20 - 5 + 3$<br><b>9)</b> $20 \div 5 \times 3$<br><b>10)</b> $20 \times 8 \div 4$<br><b>11)</b> $20 + 8 \div 4$<br><b>12)</b> $20 - 8 \div 4$                                 | <b>1)</b> 35<br><b>2)</b> 103<br><b>3)</b> 5<br><b>4)</b> 97<br><b>5)</b> 7<br><b>6)</b> 1<br><b>7)</b> 22<br><b>8)</b> 18<br><b>9)</b> 12<br><b>10)</b> 40<br><b>11)</b> 22<br><b>12)</b> 18      |
| Group B | Work out:<br><b>1)</b> $20 + (5 \times 3)$<br><b>2)</b> $(20 + 5) \times 3$<br><b>3)</b> $(20 - 5) \times 3$<br><b>4)</b> $20 \div (5 - 3)$<br><b>5)</b> $20 + (5 - 3)$<br><b>6)</b> $20 \times (8 \div 4)$<br><b>7)</b> $(20 + 8) \div 4$<br><b>8)</b> $20 + 5 \times 3^2$<br><b>9)</b> $20 + 5^2 \times 3$<br><b>10)</b> $20 \times 5 + 3^2$<br><b>11)</b> $20 \times (5 + 3)^2$<br><b>12)</b> $20 \times 5 + 3^3$ | <b>1)</b> 35<br><b>2)</b> 75<br><b>3)</b> 45<br><b>4)</b> 10<br><b>5)</b> 22<br><b>6)</b> 40<br><b>7)</b> 7<br><b>8)</b> 65<br><b>9)</b> 95<br><b>10)</b> 109<br><b>11)</b> 1280<br><b>12)</b> 127 |

## BIDMAS - Answers

|         |  |  |
|---------|--|--|
| Group C | <p>Work out:</p> <p><b>1)</b> <math>4 \times 5 + 3 \times 2</math></p> <p><b>2)</b> <math>4 \times 5 - 3 \times 2</math></p> <p><b>3)</b> <math>4 \times 5 + (3 \times 2)^2</math></p> <p><b>4)</b> <math>4 \times 5^2 + (3 \times 2)^2</math></p> <p><b>5)</b> <math>30 \div 5 + (3 + 2)^2</math></p> <p><b>6)</b> <math>30 \div 5 + (6 - 2)^2</math></p> <p><b>7)</b> <math>4 \times 5 \div 2 \times 3</math></p> <p><b>8)</b> <math>\frac{3+7}{6-4}</math></p> <p><b>9)</b> <math>\frac{5 \times 6}{6+4}</math></p> <p><b>10)</b> <math>\frac{(5 \times 6)^2}{6+4}</math></p> <p><b>11)</b> <math>\frac{5+6^2}{6-4}</math></p> <p><b>12)</b> <math>\left(\frac{5 \times 6}{6+4}\right)^2</math></p> | <p><b>1)</b> 26</p> <p><b>2)</b> 14</p> <p><b>3)</b> 56</p> <p><b>4)</b> 136</p> <p><b>5)</b> 31</p> <p><b>6)</b> 22</p> <p><b>7)</b> 30</p> <p><b>8)</b> 5</p> <p><b>9)</b> 3</p> <p><b>10)</b> 90</p> <p><b>11)</b> 20.5</p> <p><b>12)</b> 9</p> |
|---------|--|--|

# BIDMAS - Answers

|                              | Question  | Answer   |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
|------------------------------|---|--|--|---------------|-------------|--|----------------|-------------------------|--|----------------|------------------------------|--|---------------|--|------------------------------|--|---------------|-------------|--|----------------|-------------------------|--|----------------|------------------------------|--|---------------|
|                              | Applied Questions   |  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| 1)                           | <p><b>a)</b> Sarah works out a solution to the calculation below: <math>15 - 4 + 7</math><br/>Her solution is 4.<br/>Identify the error she has made and work out the correct solution.</p>   | <p><b>a)</b> She has applied BIDMAS and added before subtracting but subtraction and addition have equal priority so the solution is 18 as you work left to right.</p> |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
|                              | <p><b>b)</b> Jasmine works out a solution to the calculation below: <math>3 \times 4^2</math><br/>Her solution is 144.<br/>Identify the error she has made and work out the correct solution.</p>   | <p><b>b)</b> She has not calculated the power first so the solution is <math>3 \times 16 = 48</math>.</p>  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| 2)                           | <p><b>a)</b> Insert brackets to make this calculation correct. <math>5 + 2 \times 6 - 1 = 35</math></p> <p><b>b)</b> Insert brackets to make this calculation correct. <math>10 - 3^2 + 2 = 51</math></p>   | <p><b>a)</b> <math>(5 + 2) \times (6 - 1) = 35</math></p> <p><b>b)</b> <math>(10 - 3)^2 + 2 = 51</math></p>  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| 3)                           | <p><b>a)</b> Insert the correct operations into the boxes below to make this calculation correct. <math>10 \_ 7 \_ 2 = 24</math></p> <p><b>b)</b> Insert the correct operations into the boxes below to make this calculation correct.<br/><math>20 \_ 8 \_ 2 = 16</math></p>   | <p><b>a)</b> <math>10 + 7 \times 2 = 24</math></p> <p><b>b)</b> <math>20 - 8 \div 2 = 16</math></p>  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| 4)                           | <p>Match the equivalent calculations</p> <table border="1" data-bbox="300 1630 853 1850"> <tbody> <tr> <td><math>21 \times 12 + 3 \times 12</math></td> <td></td> <td><math>2 \times 12</math></td> </tr> <tr> <td><math>12(4 + 3)</math></td> <td></td> <td><math>24 \times 12</math></td> </tr> <tr> <td><math>72 \div 6 + 36 \div 3</math></td> <td></td> <td><math>12 \times 12</math></td> </tr> <tr> <td><math>14 \times 12 - 2 \times 12</math></td> <td></td> <td><math>7 \times 12</math></td> </tr> </tbody> </table> | $21 \times 12 + 3 \times 12$   |  | $2 \times 12$ | $12(4 + 3)$ |  | $24 \times 12$ | $72 \div 6 + 36 \div 3$ |  | $12 \times 12$ | $14 \times 12 - 2 \times 12$ |  | $7 \times 12$ |  <table border="1" data-bbox="943 1585 1487 1796"> <tbody> <tr> <td><math>21 \times 12 + 3 \times 12</math></td> <td></td> <td><math>2 \times 12</math></td> </tr> <tr> <td><math>12(4 + 3)</math></td> <td></td> <td><math>24 \times 12</math></td> </tr> <tr> <td><math>72 \div 6 + 36 \div 3</math></td> <td></td> <td><math>12 \times 12</math></td> </tr> <tr> <td><math>14 \times 12 - 2 \times 12</math></td> <td></td> <td><math>7 \times 12</math></td> </tr> </tbody> </table> | $21 \times 12 + 3 \times 12$ |  | $2 \times 12$ | $12(4 + 3)$ |  | $24 \times 12$ | $72 \div 6 + 36 \div 3$ |  | $12 \times 12$ | $14 \times 12 - 2 \times 12$ |  | $7 \times 12$ |
| $21 \times 12 + 3 \times 12$ |   | $2 \times 12$  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $12(4 + 3)$                  |   | $24 \times 12$   |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $72 \div 6 + 36 \div 3$      |   | $12 \times 12$   |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $14 \times 12 - 2 \times 12$ |   | $7 \times 12$  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $21 \times 12 + 3 \times 12$ |   | $2 \times 12$  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $12(4 + 3)$                  |   | $24 \times 12$   |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $72 \div 6 + 36 \div 3$      |   | $12 \times 12$   |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |
| $14 \times 12 - 2 \times 12$ |   | $7 \times 12$  |  |               |             |  |                |                         |  |                |                              |  |               |  |                              |  |               |             |  |                |                         |  |                |                              |  |               |

## BIDMAS - Answers

|        | Question  | Answer   |            |
|--------|---|--|------------|
|        | Exam Questions  |  |            |
| 1) (a) | Work out $8 + 3 \times 5$   | (a) 23   | (1)        |
| (b)    | Work out $10^2 - 12 \div 3$   | (b) $100 - 12 \div 3$<br>$100 - 4$<br>96   | (1)<br>(1) |
| 2) (a) | Write brackets ( ) in this statement to make each statement correct. You may use more than one pair of brackets in each statement.<br><br>$7 + 2 \times 4 = 36$ | (a) $(7 + 2) \times 4 = 36$  | (1)        |
| (b)    | $6 \times 8 \div 2 + 4 = 8$   | (b) $(6 \times 8) \div (2 + 4) = 8$<br>or $6 \times 8 \div (2 + 4) = 8$  | (1)        |
| 3)     | Here is a calculation. $15 + 4 \times 3^2$<br>Ahmed calculates the answer to be 159. Is Ahmed correct? Explain your reasons.                                    | Ahmed is wrong.<br>He has done $4 \times 3$ before calculating the power <del>oe</del> or $15 + 4 \times 9 = 51$ | (1)<br>(1) |
| 4)     | Work out $\frac{10 + 5^2}{0.5 \times 14}$   | $\frac{35}{7}$<br>5  | (1)<br>(1) |

***Do you have KS4 students who need additional support in maths?***

Our specialist tutors will help them develop the skills they need to succeed at GCSE in weekly one to one online revision lessons. Trusted by secondary schools across the UK.

Visit [thirdspacelearning.com](https://thirdspacelearning.com) to find out more.