Practice Questions for Area

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| Question | The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr completes one round in 8 minutes, then the area of the park (in sq. m) is: |
| Option A | 15360 |
| Option B | 153600 |
| Option C | 30720 |
| Option D | 307200 |
| Answer | Option **B** |
| Explanation | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Perimeter = Distance covered in 8 min. = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 12000 | x 8 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gifm = 1600 m. | | 60 |   Let length = 3*x* metres and breadth = 2*x* metres.  Then, 2(3*x* + 2*x*) = 1600 or *x* = 160.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Length = 480 m and Breadth = 320 m.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Area = (480 x 320) m2 = 153600 m2. |

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| Question | An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is: |
| Option A | 2% |
| Option B | 2.02% |
| Option C | 4% |
| Option D | 4.04% |
| Answer | Option **D** |
| Explanation | 100 cm is read as 102 cm.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif A1 = (100 x 100) cm2 and A2 (102 x 102) cm2.  (A2 - A1) = [(102)2 - (100)2]  = (102 + 100) x (102 - 100)  = 404 cm2.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Percentage error = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 404 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = 4.04% | | 100 x 100 | |

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| Question | The diagonal of a rectangle is 41 cm and its area is 20 sq. cm. The perimeter of the rectangle must be: |
| Option A | 9 cm |
| Option B | 18 cm |
| Option C | 20 cm |
| Option D | 41 cm |
| Answer | Option **B** |
| Explanation | =  Also, *lb* = 20.  (*l* + *b*)2 = (*l*2 + *b*2) + 2*lb* = 41 + 40 = 81  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif (*l* + *b*) = 9.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Perimeter = 2(*l* + *b*) = 18 cm. |

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| Question | The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is: |
| Option A |  |
| Option B |  |
| Option C |  |
| Option D |  |
| Answer | Option **D** |
| Explanation | We have: (*l* - *b*) = 23 and 2(*l* + *b*) = 206 or (*l* + *b*) = 103.  Solving the two equations, we get: *l* = 63 and *b* = 40.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Area = (*l* x *b*) = (63 x 40) m2 = 2520 m2. |

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| Question | A tank is 25 m long, 12 m wide and 6 m deep. The cost of plastering its walls and bottom at 75 paise per sq. m, is: |
| Option A | Rs. 456 |
| Option B | Rs. 458 |
| Option C | Rs. 558 |
| Option D | Rs. 568 |
| Answer | Option **C** |
| Explanation | |  |  | | --- | --- | | Area to be plastered | = [2(*l* + *b*) x *h*] + (*l* x *b*) | |  | = {[2(25 + 12) x 6] + (25 x 12)} m2 | |  | = (444 + 300) m2 | |  | = 744 m2. |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Cost of plastering = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 744 x | 75 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 558. | | 100 | |

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| Question | The perimeter of a rhombus are 24 cm and 10 cm, the area and the perimeter of the rhombus is |
| Option A | [64 sq.m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Option B | [70 sq.m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Option C | [78 sq.m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Option D | [84 sq.m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Answer | Option B |
| Explanation | |  |  | | --- | --- | | **Perimeter of the rhombus** | = 56 m | | **Each side of the rhombus** | = 56 / 4 m | | = 14 m. | | **Height of the rhombus** | = 5 m | | Area | = (14 x 5) m² | | = 70 m² | |

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| Question | 2 metres broad pathway is to be constructed around a rectangular plot on the inside. The area of the plots is 96 sq.m. The rate of construction is Rs. 50 per square metre. Find the total cost of the construction? |
| Option A | [Rs.2400](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_2.php#t1) |
| Option B | Rs.4000 |
| Option C | [Data inadequate](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_2.php#t1) |
| Option D | [None of these](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_2.php#t1) |
| Answer | Option C |
| Explanation | |  | | --- | | **Given lb =96** | | **Area of pathway** | = [(l-4)(b-4)-lb] | | = 16-4(l+b) | | Which cannot be determined. so, data is inadequate. | | | |

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| Question | If a square and a rhombus stand on the same base, then the ratio of the areas of the square and the rhombus is |
| Option A | [greater than 1](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_3.php#t1) |
| Option B | Equal to1/2 |
| Option C | Equal to 1 |
| Option D | Equal 1/4 |
| Answer | Option C |
| Explanation | A square and a rhombus on the same base are equal in area. |

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| Question | The length of a rectangle is halved, while its breadth is tripled. What is the percentage change in area? |
| Option A | 25% increase |
| Option B | 50% increase |
| Option C | 50% decrease |
| Option D | 75% decrease |
| Answer | Option **B** |
| Explanation | Let original length = *x* and original breadth = *y*.  Original area = *xy*.   |  |  |  | | --- | --- | --- | | New length = | *x* | . | | 2 |   New breadth = 3*y*.   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | New area = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *x* | x 3*y* | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 3 | *xy*. | | 2 | 2 |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Increase % = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | *xy* x | 1 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = 50%. | | 2 | *xy* | |

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| Question | A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. If the area of the lawn is 2109 sq. m, then what is the width of the road? |
| Option A | 2.91 m |
| Option B | 3 m |
| Option C | 5.82 m |
| Option D | None of these |
| Answer | Option **B** |
| Explanation | Area of the park = (60 x 40) m2 = 2400 m2.  Area of the lawn = 2109 m2.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Area of the crossroads = (2400 - 2109) m2 = 291 m2.  Let the width of the road be *x* metres. Then,  60*x* + 40*x* - *x*2 = 291  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x*2 - 100*x* + 291 = 0  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif (*x* - 97)(*x* - 3) = 0  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = 3. |

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| Question | A triangle and a parallelogram are constructed on the same base such that their areas are equal. If the altitude of the parallelogram is 100 m , then the altitude of the triangle is |
| Option A | [10√2 m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Option B | 100m |
| Option C | [100√2 m](http://www.a2zinterviews.com/Aptitude/area/object-type-questions-for-area_4.php#t1) |
| Option D | 200m |
| Answer | Option D |
| Explanation | |  |  |  | | --- | --- | --- | | Let the altitude of the triangle be hïand base of each be b. | | | | **Then , (½ ×b× h1) where h2 = 100 m.** |  |  | | = h1 = 2h2 |  | | = ( 2 x 100) m |  | | = 200 m. |  | |

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| Question | A rectangular plot measuring 90 metres by 50 metres is to be enclosed by wire fencing. If the poles of the fence are kept 5 metres apart, how many poles will be needed? |
| Option A | 55 |
| Option B | 56 |
| Option C | 57 |
| Option D | 58 |
| Answer | Option B |
| Explanation | |  |  | | --- | --- | | **Perimeter of the plot** | = 2 ( 90 + 50 ) | | = 280 m. | | **Number of poles** | = (280 / 5) | | = 56 m. | |

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| Question | A typist uses a sheet measuring 20cm by 30cm lengthwise. If a margin of 2 cm is left on each side and a 3 cm margin on top and bottom, then percent of the page used for typing is |
| Option A | 40 |
| Option B | 60 |
| Option C | 64 |
| Option D | 72 |
| Answer | Option C |
| Explanation | |  |  | | --- | --- | | **Area of the sheet** | = (20 x 30 ) cm² | | = 600 cm² | | **Area used for typing** | = [(20 - 4) x (30 - 6)] cm² | | = 384 cm² | | Required percentage | = (384 / 600 x 100)% | | =64%. | |

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| Question | The breadth of a rectangular field is 60% of its length. If the perimeter of the field is 800 m.What is the area of the field? |
| Option A | 18750 Sq.m |
| Option B | 37500 Sq.m |
| Option C | 40000 Sq.m |
| Option D | 48000 Sq.m |
| Answer | Option B |
| Explanation | |  | | --- | | **So length =250 m; breadth=150m** | | **Area** | = (250 x 150)m² | | = 37500 m² | |

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| Question | What is the least number of squares tiles required to pave the floor of a room 15 m 17 cm long and 9 m 2 cm broad? |
| Option A | 814 |
| Option B | 820 |
| Option C | 840 |
| Option D | 844 |
| Answer | Option **A** |
| Explanation | Length of largest tile = H.C.F. of 1517 cm and 902 cm = 41 cm.  Area of each tile = (41 x 41) cm2.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required number of tiles = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1517 x 902 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 814. | | 41 x 41 | |  |  |  |  |  | |