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| Year  9 | | Mathematics Test  Enlargement and Similarity | | Non Calculator |
| Short Answer Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper. | | | |
| 1. | What is the scale factor when  is enlarged to ?  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 2. | What is the scale factor when  is reduced to ?  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 3. | Complete the statement :  *When two figures are similar the corresponding angles of the two figures are........*  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 4. | Complete the enlargement of  from centre *C* with scale factor *k* = 3. | | | |
| 5. | Complete the enlargement of  from centre *O* with scale factor *k* =  . | | | |
| 6. | What is the scale factor?  ...............................................................  ................................................................  ...............................................................  .............................................................. | | | |
| 7. | |||  What is the length of *EF*?  ...............................................................  ...........................................................................................  ...............................................................  .............................................................. | | | |
| 8. | with a scale factor of k = 2.5.  What is the length of *F’G’*  ...............................................................  ................................................................  ...............................................................  .............................................................. | | | |
| 9. | Explain in words why the triangles ABC and PQR are similar.  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| 10. | Explain in words why the triangles EFG and XYZ are similar.  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |

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| Year  9 | | Mathematics Test  Enlargement and Similarity | | Calculator |
| Multiple Choice Section | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section. | | | |
| 1. | Four rectangles are shown below.  Which two are similar?  A. *I* and *II* B. *II* and *III* C. *I* and *IV* D. *II* and *IV* | | | |
| 2. | Which is always true?  A. All isosceles triangles are similar.  B. All scalene triangles are similar.  C. All rectangles are similar.  D. All squares are similar. | | | |
| 3. | What is the enlargement factor from Triangle 1 to Triangle 2?  NOT TO  SCALE.  A.  B.  C.  D. | | | |
| 4. | Ursula prints a photograph to a size of 12 cm by 16 cm. She decides to print a larger version to frame. The larger print is to measure 40 cm on the longer side. What is its width?  A. 18 cm B. 24 cm C. 27 cm D. 30 cm. | | | |
| 5. | Which parallelogram is similar to the one shown above?   1. B.     C. D. | | | |
| 6. | A design is made up of rhombuses of three different sizes; labelled *x*, *y* and *z*.  Which rhombuses are similar?  A. *x*, *y* and *z.* B. *y* and *z* only*.* C. *x* and *z* only*.* D. *x* and *y* only*.* | | | |
| 7. | AC = 16 cm, CE = 2 cm and CB = 8 cm.  What is the length of ED?  A. 1 cm.  B. 9 cm.  C. 10 cm.  D. 12 cm. | | | |
| 8. | Which reason could be used to prove that  ?    A. *The three corresponding angles of the triangles are equal .*  B. *The three corresponding angles of the triangles are proportional.*  C. *The three corresponding sides of the triangles are proportional.* *.*  D. *Two corresponding sides of the triangles are proportional and the included angle is equal.* | | | |
| 9. | *x* = ?  A. 6  B. 8  C. 10  D. 12 | | | |
| 10. | What is the length of BC in the diagram?  A. 5  B. 6  C. 12  D. 15 | | | |

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| Year  9 | | | Mathematics Test  Enlargement and Similarity | | Calculator |
| Longer Questions | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
|  | Write all working and answers in the spaces provided on this test paper.  Calculators are allowed for this section. | | | | |
| 1. |  | | | | |
|  | (a)  3  marks | Prove that .  ..........................................................................................................................................................    ..........................................................................................................................................................  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |
| (b)  2  marks | Find the length of *WU*.  ..........................................................................................................................................................    ..........................................................................................................................................................  ..........................................................................................................................................................    .......................................................................................................................................................... | | | |

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| Year  9 | Mathematics Test  Enlargement and Similarity | Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Multiple Choice Answer Sheet | |

Completely fill the response oval representing the most correct answer.

1. A B C D

2. A B C D

3. A B C D

4. A B C D

5. A B C D

6. A B C D

7. A B C D

8. A B C D

9. A B C D

10. A B C D

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|  | Mathematics Test  Enlargement and Similarity |
| Answer Sheet |

|  |  |
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| Short Answer | |
| 1 | 3 |
| 2 |  |
| 3 | Equal |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 | 15 cm |
| 8 | 40 cm |
| 9 | The angles in  are equal to the corresponding angles in |
| 10 | Two pairs of corresponding sides are in the same ratio(2:3) and the angle between them is equal. |

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| Multiple Choice | |
| 1 | D |
| 2 | D |
| 3 | C |
| 4 | D |
| 5 | B |
| 6 | A |
| 7 | B |
| 8 | A |
| 9 | B |
| 10 | C |

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| 1. |  | |
|  | (a)  3  marks | Prove that . |
| (b)  2  marks |  |