**Year 10 Higher Standard: Assessment 3 Revision**

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| **Percentages** | **/15** | **Congruency similarity** | **/15** | **y = mx + c** | **/15** | **Statistics** | **/5** |

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|  | **Topic 9: Percentages** | | **Mark** |
| **1.** | Katy goes to work by train.  The tickets costs £35.  The cost of her weekly train ticket increases by 12%.  What will the new cost of her ticket be?  £ …………………… | | **(2)** |
| **2.** | Jules buys a washing machine.  20% VAT is added to the price of the washing machine.  Jules then has to pay a total of £600  What was the price of the washing machine before the VAT was added?  £ …………………… | | **(2)** |
| **3.** | A games console was originally priced at £240.  It is reduced in price to £204.  Calculate the percentage reduction.  ……………………% | | **(3)** |
| **4.** | Daniel bakes 420 cakes.  He bakes only vanilla cakes, banana cakes, lemon cakes and chocolate cakes.  of the cakes are vanilla cakes.  35% of the cakes are banana cakes.  The ratio of the number of lemon cakes to the number of chocolate cakes is 4:5  Work out the number of lemon cakes Daniel bakes.  …………………… lemon cakes | | **(5)** |
| **5.** | Amy wants to invest £25000 for 3 years in a bank.   |  |  |  | | --- | --- | --- | | **Personal Bank**  Compound interest  2% each year |  | **Compound Bank**  Compound interest  4.3% for the first year 0.9% for each extra year |   Which bank will give Amy the most interest at the end of 3 years? Show your working. | | **(3)** |
|  | **Topic 10: Congruency and similarity** | **Mark** | |
| **1.** | *ABCD* is a quadrilateral.  *AB* = *CD*.  Angle *ABC* = angle *BCD*.  Prove thatABC and BCD are congruent. | **(3)** | |
| **2.** | *ABC* and *EDC* are straight lines.  *EA* is parallel to *DB*.  *EC* = 8.1 cm. *DC* = 5.4 cm.  *DB* = 2.6 cm. *AC* = 6.15 cm.  a) Work out the length of AE  …………………… cm  b) Work out the length of *AB*.  …………………… cm | **(2)**  **(3)** | |
| **3.** | *ACQ* and *BCP* are straight lines. *AB* is parallel to *PQ*. *AB* = 2 cm. *AC* = 3 cm. *CQ* = 12 cm. *CP* = 10 cm.  a) Prove that and are similar.  b) Work out the length of *PQ*.  …………………… cm  c) Work out the length of *BP*.  …………………… cm | **(3)**  **(2)**  **(2)** | |
|  | **Topic 11: y = mx + c** | **Mark** | |
| **1.** | A straight line has equation *y* = 5 – 3*x*  a) Write down the gradient of the line. ……………………  b) Write down the coordinates of the point where the line crosses the *y* axis.  ( ………… , ………… ) | **(1)**  **(1)** | |
| **2.** | Find the gradient of the straight line with equation 5*y* = 3 – 2*x*.   1. Write down the gradient of the line.   ……………………   1. Write down the coordinates of the point where the line crosses the *y* axis.   ( ………… , ………… ) | **(2)**  **(2)** | |
| **3.** | The straight line **L**1 has equation *y* = 2*x* + 3  The straight line **L**2 is parallel to the straight line **L**1.  The straight line **L**2 passes through the point (3, 2).  Find an equation of the straight line **L**2.  …………………… | **(3)** | |
| **4.** | The equation of the line L1 is      *y – 3x*  = − 2  The equation of the line L2 is      3*y* − 9*x* + 5 = 0  Show that these two lines are parallel. | **(3)** | |
| **5.** | Line A: *y =* 5*x* + 6  Line B is perpendicular to line A.  Line B passes through the point (-2, 5)  Find an equation of line B.  …………………… | **(3)** | |
|  | **Topic 12: Scatter Graphs** | **Mark** | |
| **1.** | The scatter graph shows the maximum temperature and the number of hours of sunshine in fourteen British towns on one day.    One of the points is an outlier.  a)   Circle this point on the graph.  b)   For all the other points write down the type of correlation. ……………………  On the same day, in another British town, the maximum temperature was 16.4°C.   1. Estimate the number of hours of sunshine in this town on this day.   ……………………  A weatherman says, "Temperatures are higher on days when there is more sunshine."  d)   Does the scatter graph support what the weatherman says? Give a reason.  …………………………………………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………………………………………  Matt says  “I can use the graph to predict the temperature when there is 8 hours of sunshine”   1. Explain why Matt should not do this.   …………………………………………………………………………………………………………………………………………………  ………………………………………………………………………………………………………………………………………………… | **(1)**  **(1)**  **(1)**  **(1)**  **(1)** | |