YEAR 11 HOMEWORK – WEEK \_\_\_

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| 1. There are 3 rods of length:**a-1, 2a** and **a + 4**The total length of the 3 rods is *L* cmFind a formula for L. Write it in its simplest form. | 2. The length of a rectangle is twice as long as the width of the rectangle. The area of the rectangle is 32units2. Draw the rectangle on the grid. |
| 3. Jacqui wants to work out **3480÷5**She knows that **3480 ÷ 10 = 348**She writes: ***3480 ÷ 5 = 174***Because: ***10 ÷ 5 = 2***And: ***348 ÷ 2 = 174***What mistake did Jacqui make in her method? | 4. Jake played a game 20 times. The stem and leaf diagram shows his scoresJake says the modal score was 6 points. Explain his mistake |
| 5. There are 30 children in a nursery school.At least 1 adult is needed for every 8 children in the nursery.Work out the least number of adults needed in the nursery. | 6. An approximate rule for converting degrees Fahrenheit into degrees Centigrade is:Use this rule to convert 22°F into °C. |
| 7. Write 36 as a product of its prime factors. | 8. Kiaria is 7 years older than Jay.Martha is twice as old as Kiaria.The sum of their three ages is 77Find the ratio of Jay’s age to Kiaria’s age to Martha’s age. |
| 9. *ABCD* is a parallelogram.*EDC* is a straight line.*F* is the point on *AD* so that *BFE* is a straight line.Find angle ABF | 10. Each circle has centre *O*. Daisy says that exactly 1/3of the logo is shaded. Is Daisy correct?You must show all your working. |

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| 11. The table shows information about the weekly earnings of 20 people. Work out an estimate for the mean of the weekly earnings. | 12. Solve the equation *x*2 *+* 3*x*-40 = 0 |
| 13. Solve the inequality5*x* + 3 > 10 | 14. A bag contains 200 coloured discs. The discs are either red, blue or yellow. There are 86 red discs in the bag. The probability that a blue disc is chosen from the bag is 0.22Calculate the number of yellow discs in the bag. |
| 15. y is proportional to x where x > 0 and y > 0. When x = 5, y = 12.5.Find an equation expressing *y* in terms of *x*. | 16. Tim drives at an average of 80km per hour for 3 hrs 45 minutes. Work out how many kilometres he drives |

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| 17. Draw the new position of triangle A after a rotation of 90° clockwise about the origin. | 18. Triangles *ABC* and *DEF* are similar. Calculate the length of *DE.* |
| 19. Use Pythagoras theorem to find the value of a | 20. Write down the exact value of:a) Sin 30b) Sin 45c) Tan 30 |