

TMC Year 12 Zonal 2025

Y12/1. Tina works a 35-hour week and is paid at an hourly rate of \$18. Any overtime hours worked are paid at time-and-a-half. In a particular week, she earned \$1008. How many hours in total did Tina work in this week to earn this amount?

Y12/1. Tina works a 35-hour week and is paid at an hourly rate of \$18. Any overtime hours worked are paid at time-and-a-half. In a particular week, she earned \$1008. How many hours in total did Tina work in this week to earn this amount?

Y12/1. Tina works a 35-hour week and is paid at an hourly rate of \$18. Any overtime hours worked are paid at time-and-a-half. In a particular week, she earned \$1008. How many hours in total did Tina work in this week to earn this amount?

Y12/1. Tina works a 35-hour week and is paid at an hourly rate of \$18. Any overtime hours worked are paid at time-and-a-half. In a particular week, she earned \$1008. How many hours in total did Tina work in this week to earn this amount?

Y12/1. Tina works a 35-hour week and is paid at an hourly rate of \$18. Any overtime hours worked are paid at time-and-a-half. In a particular week, she earned \$1008. How many hours in total did Tina work in this week to earn this amount?

Y12/2. An amount of money is invested at 10% for the first year and 8% for the second year
What is the percentage increase in the value of the investment over this period?

Y12/2. An amount of money is invested at 10% for the first year and 8% for the second year
What is the percentage increase in the value of the investment over this period?

Y12/2. An amount of money is invested at 10% for the first year and 8% for the second year
What is the percentage increase in the value of the investment over this period?

Y12/2. An amount of money is invested at 10% for the first year and 8% for the second year
What is the percentage increase in the value of the investment over this period?

Y12/2. An amount of money is invested at 10% for the first year and 8% for the second year
What is the percentage increase in the value of the investment over this period?

Y12/3 Determine the coordinates of the **turning point** of $y = 2x^2 + 8x + 9$

Y12/3 Determine the coordinates of the **turning point** of $y = 2x^2 + 8x + 9$

Y12/3 Determine the coordinates of the **turning point** of $y = 2x^2 + 8x + 9$

Y12/3 Determine the coordinates of the **turning point** of $y = 2x^2 + 8x + 9$

Y12/3 Determine the coordinates of the **turning point** of $y = 2x^2 + 8x + 9$

Y12/4. Find the coordinates of the point of intersection of the asymptotes of

$$y = \frac{2}{x+2}$$

Y12/4. Find the coordinates of the point of intersection of the asymptotes of

$$y = \frac{2}{x+2}$$

Y12/4. Find the coordinates of the point of intersection of the asymptotes of

$$y = \frac{2}{x+2}$$

Y12/4. Find the coordinates of the point of intersection of the asymptotes of

$$y = \frac{2}{x+2}$$

Y12/4. Find the coordinates of the point of intersection of the asymptotes of

$$y = \frac{2}{x+2}$$

Y12/5 Find the area between the graph of $y = -x^2 + 3x$ and the x -axis.

Y12/5 Find the area between the graph of $y = -x^2 + 3x$ and the x -axis.

Y12/5 Find the area between the graph of $y = -x^2 + 3x$ and the x -axis.

Y12/5 Find the area between the graph of $y = -x^2 + 3x$ and the x -axis.

Y12/5 Find the area between the graph of $y = -x^2 + 3x$ and the x -axis.

Y12/6 Solve $x^2 - 4x \leq 5$

Y12/6 Solve $x^2 - 4x \leq 5$

Y12/6 Solve $x^2 - 4x \leq 5$

Y12/6 Solve $x^2 - 4x \leq 5$

Y12/6 Solve $x^2 - 4x \leq 5$

Y12/7 Every positive integer from 1 to 500 inclusive is written out in a row. How many times does the digit 4 appear?

Y12/7 Every positive integer from 1 to 500 inclusive is written out in a row. How many times does the digit 4 appear?

Y12/7 Every positive integer from 1 to 500 inclusive is written out in a row. How many times does the digit 4 appear?

Y12/7 Every positive integer from 1 to 500 inclusive is written out in a row. How many times does the digit 4 appear?

Y12/7 Every positive integer from 1 to 500 inclusive is written out in a row. How many times does the digit 4 appear?

Y12/8 Find the value (s) of k such that $-2x^2 + kx - 2 = 0$ has only one real root?

Y12/8 Find the value (s) of k such that $-2x^2 + kx - 2 = 0$ has only one real root?

Y12/8 Find the value (s) of k such that $-2x^2 + kx - 2 = 0$ has only one real root?

Y12/8 Find the value (s) of k such that $-2x^2 + kx - 2 = 0$ has only one real root?

Y12/8 Find the value (s) of k such that $-2x^2 + kx - 2 = 0$ has only one real root?

Y12/9. $f(x) = 4^x$

Find the value of $f(0.5) + f^{-1}(0.5)$

Y12/9. $f(x) = 4^x$

Find the value of $f(0.5) + f^{-1}(0.5)$

Y12/9. $f(x) = 4^x$

Find the value of $f(0.5) + f^{-1}(0.5)$

Y12/9. $f(x) = 4^x$

Find the value of $f(0.5) + f^{-1}(0.5)$

Y12/9. $f(x) = 4^x$

Find the value of $f(0.5) + f^{-1}(0.5)$

Y12/10. Jane sells jewellery. Her commission is based on a sliding scale of 4% on the first \$2000 of her sales, 3 % on the next \$1000, and 2.5% thereafter. What is Jane's commission when her total sales are \$5000?

Y12/10. Jane sells jewellery. Her commission is based on a sliding scale of 4% on the first \$2000 of her sales, 3 % on the next \$1000, and 2.5% thereafter. What is Jane's commission when her total sales are \$5000?

_ Y12/10. Jane sells jewellery. Her commission is based on a sliding scale of 4% on the first \$2000 of her sales, 3 % on the next \$1000, and 2.5% thereafter. What is Jane's commission when her total sales are \$5000?

Y12/10. Jane sells jewellery. Her commission is based on a sliding scale of 4% on the first \$2000 of her sales, 3 % on the next \$1000, and 2.5% thereafter. What is Jane's commission when her total sales are \$5000?

Y12/10. Jane sells jewellery. Her commission is based on a sliding scale of 4% on the first \$2000 of her sales, 3 % on the next \$1000, and 2.5% thereafter. What is Jane's commission when her total sales are \$5000?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/11. A patient requires 2400 mL of fluid to be delivered at a constant rate by means of a drip over 12 hours. Each mL of fluid is equivalent to 15 drops. How many drops per minute need to be delivered?

Y12/ 12 State the range of $y = 2 - \frac{2}{x+2}$ in set builder notation.

Y12/ 12 State the range of $y = 2 - \frac{2}{x+2}$ in set builder notation.

Y12/ 12 State the range of $y = 2 - \frac{2}{x+2}$ in set builder notation.

Y12/ 12 State the range of $y = 2 - \frac{2}{x+2}$ in set builder notation.

Y12/ 12 State the range of $y = 2 - \frac{2}{x+2}$ in set builder notation.

Y12/13. The altitude of an equilateral triangle is 1 cm. What is its area in cm^2 ?

Y12/13. The altitude of an equilateral triangle is 1 cm. What is its area in cm^2 ?

Y12/13. The altitude of an equilateral triangle is 1 cm. What is its area in cm^2 ?

Y12/13. The altitude of an equilateral triangle is 1 cm. What is its area in cm^2 ?

Y12/13. The altitude of an equilateral triangle is 1 cm. What is its area in cm^2 ?

Y12/14. The price of a radio is \$230, which includes 15% VAT. What is the amount of VAT included in this price?

Y12/14. The price of a radio is \$230, which includes 15% VAT. What is the amount of VAT included in this price?

Y12/14. The price of a radio is \$230, which includes 15% VAT. What is the amount of VAT included in this price?

Y12/14. The price of a radio is \$230, which includes 15% VAT. What is the amount of VAT included in this price?

Y12/14. The price of a radio is \$230, which includes 15% VAT. What is the amount of VAT included in this price?

Y12/15. What amount must be invested now at 10% per annum, compounded interest, so that in two years it will have grown to \$665.50?

Y12/15. What amount must be invested now at 10% per annum, compounded interest, so that in two years it will have grown to \$665.50?

Y12/15. What amount must be invested now at 10% per annum, compounded interest, so that in two years it will have grown to \$665.50?

Y12/15. What amount must be invested now at 10% per annum, compounded interest, so that in two years it will have grown to \$665.50?

Y12/15. What amount must be invested now at 10% per annum, compounded interest, so that in two years it will have grown to \$665.50?

Y12/16. What is the size of the acute angle between the hour and minute hands of a clock at 1:26?

Y12/16. What is the size of the acute angle between the hour and minute hands of a clock at 1:26?

Y12/16. What is the size of the acute angle between the hour and minute hands of a clock at 1:26?

Y12/16. What is the size of the acute angle between the hour and minute hands of a clock at 1:26?

Y12/16. What is the size of the acute angle between the hour and minute hands of a clock at 1:26?

Y12/17 A farmer wishes to enclose a **rectangular** field using 108 m of fencing material.

Find the **largest** area, in m^2 , that can be enclosed.

Y12/17 A farmer wishes to enclose a **rectangular** field using 108 m of fencing material.

Find the **largest** area, in m^2 , that can be enclosed.

Y12/17 A farmer wishes to enclose a **rectangular** field using 108 m of fencing material.

Find the **largest** area, in m^2 , that can be enclosed.

Y12/17 A farmer wishes to enclose a **rectangular** field using 108 m of fencing material.

Find the **largest** area, in m^2 , that can be enclosed.

Y12/17 A farmer wishes to enclose a **rectangular** field using 108 m of fencing material.

Find the **largest** area, in m^2 , that can be enclosed.

Y12/18. If goods are marked up 30% above the cost and then a 10% discount is offered, what is the percentage profit?

Y12/18. If goods are marked up 30% above the cost and then a 10% discount is offered, what is the percentage profit?

Y12/18. If goods are marked up 30% above the cost and then a 10% discount is offered, what is the percentage profit?

Y12/18. If goods are marked up 30% above the cost and then a 10% discount is offered, what is the percentage profit?

Y12/18. If goods are marked up 30% above the cost and then a 10% discount is offered, what is the percentage profit?

Y12/19. A shopkeeper sold a radio for a profit of 25%. If her selling price was \$150, what was her cost price?

Y12/19. A shopkeeper sold a radio for a profit of 25%. If her selling price was \$150, what was her cost price?

Y12/19. A shopkeeper sold a radio for a profit of 25%. If her selling price was \$150, what was her cost price?

Y12/19. A shopkeeper sold a radio for a profit of 25%. If her selling price was \$150, what was her cost price?

Y12/19. A shopkeeper sold a radio for a profit of 25%. If her selling price was \$150, what was her cost price?

Y12/20. Find the area of a regular octagon with side length 2.
Give your answer in simplified surd form.

. _____

Y12/20. Find the area of a regular octagon with side length 2.
Give your answer in simplified surd form.

. _____

Y12/20. Find the area of a regular octagon with side length 2.
Give your answer in simplified surd form.

. _____

Y12/20. Find the area of a regular octagon with side length 2.
Give your answer in simplified surd form.

. _____

Y12/20. Find the area of a regular octagon with side length 2.
Give your answer in simplified surd form.

. _____

.