

Due date	Thursday 18 th January 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA3.1

Name :

FAA3.1

Question 1 Simplify $x^3 \times x^2$	Question 2 Simplify $x^6 \div x^2$	Question 3 Expand and simplify $(x - 2)(x - 1)$	Question 4 Expand and simplify $(x - 4)(x - 2)$
Question 5 Factorise $x^2 + 5x + 6$	Question 6 Factorise $x^2 + 9x + 14$	Question 7 Solve simultaneously $x + 2y = 11$ $2x + 2y = 14$	Question 8 Solve simultaneously $2x - y = 8$ $x + y = 7$
Question 9 If it takes 3 hours for 8 workers to paint a fence, how long would it take 6 workers?	Question 10 If it takes 6 days for 6 workers to build a garage, how long would it take 9 workers?	Question 11 A measure is given as 13 cm correct to the nearest cm. What is the upper bound?	Question 12 A measure is given as 200 m correct to the nearest 50m. What is the upper bound?
Question 13 Work out $\frac{2}{5} \times \frac{1}{6}$	Question 14 Work out $\frac{3}{4} \div \frac{1}{2}$	Question 15 Round 3453 to 2 significant figures	Question 16 Round 0.05468 to 2 significant figures
Question 17 Does the point (2, 5) lie on the line $y = 3x - 1$?	Question 18 Does the point (-1, 4) lie on the line $y = 5 - x$?	Question 19 State the exact value of $\sin 90^\circ$	Question 20 State the exact value of $\cos 90^\circ$

Question 21
What does 'intercept' mean?

Score

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Due date	Thursday 25 th January 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA3.2

Name :

FAA3.2

Question 1 Simplify $x^2 \times x$	Question 2 Simplify $x^4 \div x^3$	Question 3 Expand and simplify $(x - 2)(x - 2)$	Question 4 Expand and simplify $(x - 5)(x - 4)$
Question 5 Factorise $x^2 + 10x + 25$	Question 6 Factorise $x^2 + 11x + 30$	Question 7 Solve simultaneously $3x + y = 13$ $3x - y = 11$	Question 8 Solve simultaneously $2x + 3y = 13$ $2x + y = 7$
Question 9 If it takes 10 hours for 2 workers to paint a fence, how long would it take 5 workers?	Question 10 If it takes 9 days for 4 workers to build a garage, how long would it take 3 workers?	Question 11 A measure is given as 2.5 km correct to the nearest 500m. What is the upper bound?	Question 12 A measure is given as 400 m correct to the nearest 10m. What is the upper bound?
Question 13 Work out $\frac{6}{7} \times \frac{7}{18}$	Question 14 Work out $\frac{2}{7} \div \frac{3}{7}$	Question 15 Round 3090855 to 2 significant figures	Question 16 Round 0.005049 to 2 significant figures
Question 17 Does the point (2, -2) lie on the line $y = 2x - 2$?	Question 18 Does the point (-3, 1) lie on the line $y = x + 4$?	Question 19 State the exact value of $\sin 30^\circ$	Question 20 State the exact value of $\tan 45^\circ$

Question 21
What is correlation?

Score

Due date	Thursday 1 st February 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA3.3

Name :

FAA3.3

Question 1 Simplify $3x^3 \times 2x^2$	Question 2 Simplify $8x^6 \div 4x^2$	Question 3 Expand and simplify $(x - 4)(x - 6)$	Question 4 Expand and simplify $(x - 1)(x - 1)$
Question 5 Factorise $x^2 + 10x + 16$	Question 6 Factorise $x^2 + 10x + 24$	Question 7 Solve simultaneously $2x + 3y = 18$ $2x - 3y = 6$	Question 8 Solve simultaneously $x - y = -1$ $x + 3y = 15$
Question 9 If it takes 4 hours for 10 workers to mend a road, how long would it take 8 workers?	Question 10 If it takes 2 days for 9 workers to build a garage, how long would it take 6 workers?	Question 11 A measure is given as 2.0 cm correct to the nearest mm. What is the upper bound?	Question 12 A measure is given as 240 m correct to the nearest 10 m. What is the upper bound?
Question 13 Work out $\frac{9}{10} \times \frac{5}{6}$	Question 14 Work out $\frac{5}{8} \div \frac{3}{4}$	Question 15 Round 1.502 to 2 significant figures	Question 16 Round 680599 to 1 significant figure
Question 17 Does the point (1, 0) lie on the line $y = 2x - 1$?	Question 18 Does the point (-1, -1) lie on the line $y = 1 - 2x$?	Question 19 State the exact value of $\sin 45^\circ$	Question 20 State the exact value of $\cos 30^\circ$

Question 21
What is a corresponding angle?

Score

Due date	Thursday 8 th February 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA3.4

Name :

FAA3.4

Question 1 Simplify $(4x^3)^2$	Question 2 Simplify $15x^5 \div 3x^3$	Question 3 Expand and simplify $(x - 6)(x - 6)$	Question 4 Expand and simplify $(x - 3)(x - 7)$
Question 5 Factorise $x^2 + 2x + 1$	Question 6 Factorise $x^2 + 13x + 36$	Question 7 Solve simultaneously $x + 2y = 11$ $2x + 2y = 14$	Question 8 Solve simultaneously $2x - 3y = 4$ $2x + y = 12$
Question 9 If it takes 5 hours for 4 workers to paint a fence, how long would it take 10 workers?	Question 10 If it takes 8 days for 6 workers to build a garage, how long would it take 4 workers?	Question 11 A measure is given as 120 cm correct to the nearest cm. What is the upper bound?	Question 12 A measure is given as 2.0 km correct to the nearest 500 m. What is the upper bound?
Question 13 Work out $\frac{8}{15} \times \frac{1}{2}$	Question 14 Work out $\frac{6}{7} \div \frac{7}{8}$	Question 15 Round 0.20095 to 2 significant figures	Question 16 Round 658001 to 1 significant figure
Question 17 Does the point $(-2, 5)$ lie on the line $y = 3 - x$?	Question 18 Does the point $(0, -5)$ lie on the line $y = 5 - x$?	Question 19 State the exact value of $\cos 45^\circ$	Question 20 State the exact value of $\tan 0^\circ$

Question 21
What does product mean?

Score

Due date	Thursday 22 nd February 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA3.5

Name :

FAA3.5

Question 1 Simplify $6x^6 \times 2x^2$	Question 2 Simplify $10x^3 \div 5x$	Question 3 Expand and simplify $(x - 10)(x - 1)$	Question 4 Expand and simplify $(x - 8)(x - 3)$
Question 5 Factorise $x^2 + 12x + 32$	Question 6 Factorise $x^2 + 14x + 33$	Question 7 Solve simultaneously $3x + 2y = 11$ $3x - y = -1$	Question 8 Solve simultaneously $4x + y = 15$ $4x - y = 9$
Question 9 If it takes 4 hours for 10 workers to paint a fence, how long would it take 5 workers?	Question 10 If it takes 9 days for 8 workers to build a garage, how long would it take 12 workers?	Question 11 A measure is given as 10 cm correct to the nearest cm. What is the upper bound?	Question 12 A measure is given as 2.1 km correct to the nearest 100 m. What is the upper bound?
Question 13 Work out $\frac{5}{7} \times \frac{7}{8}$	Question 14 Work out $\frac{1}{4} \div \frac{1}{8}$	Question 15 Round 3.25 to 2 significant figures	Question 16 Round 0.0002489 to 2 significant figures
Question 17 Does the point (2, 4) lie on the line $y = 3x - 2$?	Question 18 Does the point (-1, 6) lie on the line $y = 5 - x$?	Question 19 State the exact value of $\cos 0^\circ$	Question 20 State the exact value of $\sin 60^\circ$

Question 21
What is an outlier?

Score

Due date	Thursday 29 th February 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.1

Name :

FAA4.1

Question 1 Work out $2.3 \times 10^3 + 1.9 \times 10^2$	Question 2 Work out $5.4 \times 10^4 - 8.4 \times 10^3$	Question 3 Expand and simplify $(x + 5)(x + 4)$	Question 4 Expand and simplify $(x - 2)(x + 1)$
Question 5 Factorise $x^2 + 7x + 12$	Question 6 Factorise $x^2 - 2x + 1$	Question 7 An antique is sold £480 making a 20% profit. What was the original price of the antique?	Question 8 A car is sold for £2250 making a 10% loss. What was the original price of the car?
Question 9 Work out $\frac{4}{5} + \frac{2}{3}$	Question 10 Work out $\frac{4}{5} \times \frac{1}{2}$	Question 11 Express as an inequality the error interval when x is given as 25 when rounded to the nearest integer	Question 12 Express as an inequality the error interval when x is given as 20 when rounded to 1 significant figure.
Question 13 Solve $x^2 - 5x = 0$	Question 14 Solve $4x^2 - 20x = 0$	Question 15 The price of an item increased from £45 to £54. Calculate the percentage change	Question 16 The price of an item decreased from £60 to £51. Calculate the percentage change
Question 17 A car travels for 2 hours 30 minutes at a speed of 48 km per hour. Calculate the distance travelled.	Question 18 A cyclist covers 20 km in 1 hour 15 minutes. Calculate her average speed.	Question 19 Sketch the graph of $y = x$	Question 20 Sketch the graph of $y = x^2$

Question 21
What is 'data'?

Score

Due date	Thursday 7 th March 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.2

Name :

FAA4.2

Question 1 Work out $1.5 \times 10^5 + 1.5 \times 10^4$	Question 2 Work out $1.1 \times 10^5 - 9.9 \times 10^4$	Question 3 Expand and simplify $(x + 3)(x + 6)$	Question 4 Expand and simplify $(x - 4)(x - 2)$
Question 5 Factorise $x^2 + 7x + 10$	Question 6 Factorise $x^2 - 2x - 3$	Question 7 An antique is sold £156 making a 30% profit. What was the original price of the antique?	Question 8 A car is sold for £336 making a 20% loss. What was the original price of the car?
Question 9 Work out $\frac{4}{7} - \frac{1}{3}$	Question 10 Work out $\frac{1}{5} \div \frac{4}{5}$	Question 11 Express as an inequality the error interval when x is given as 90 when rounded to the nearest integer	Question 12 Express as an inequality the error interval when x is given as 500 when rounded to 1 significant figure.
Question 13 Solve $x^2 + x = 0$	Question 14 Solve $3x^2 - 21x = 0$	Question 15 The price of an item increased from £36 to £45. Calculate the percentage change	Question 16 The price of an item decreased from £52 to £39. Calculate the percentage change
Question 17 A car travels for 1 hours 45 minutes at a speed of 24 km per hour. Calculate the distance travelled.	Question 18 A train covers 160 km in 1 hour 20 minutes. Calculate the average speed.	Question 19 Sketch the graph of $y = -x$	Question 20 Sketch the graph of $y = x + 2$

Question 21Circle any coefficients in the expression $3x^2 + 2x + 4$

Score

Due date	Thursday 14 th March 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.3

Name :

FAA4.3

Question 1 Work out $1.0 \times 10^3 + 9.2 \times 10^3$	Question 2 Work out $2.1 \times 10^4 - 8.5 \times 10^3$	Question 3 Expand and simplify $(x - 1)(x - 9)$	Question 4 Expand and simplify $(x + 6)(x - 2)$
Question 5 Factorise $x^2 - 5x + 6$	Question 6 Factorise $x^2 - 5x - 14$	Question 7 An car is sold £3840 making a 20% profit. What was the original price of the antique?	Question 8 A bike is sold for £76 making a 5% loss. What was the original price of the car?
Question 9 Work out $\frac{5}{9} \times \frac{2}{5}$	Question 10 Work out $\frac{3}{5} \div \frac{6}{7}$	Question 11 Express as an inequality the error interval when x is given as 1.5 when rounded to 1 decimal place	Question 12 Express as an inequality the error interval when x is given as 25 when rounded to 2 significant figures.
Question 13 Solve $x^2 + 10x = 0$	Question 14 Solve $10x^2 - 35x = 0$	Question 15 The price of an item increased from £60 to £78. Calculate the percentage change	Question 16 The price of an item decreased from £80 to £56. Calculate the percentage change
Question 17 A car travels for 1 hours 20 minutes at a speed of 36 km per hour. Calculate the distance travelled.	Question 18 A car travels 50km at a speed of 40 km/h. How long does the journey take?	Question 19 Sketch the graph of $y = -x^2$	Question 20 Sketch the graph of $y = \frac{1}{x}$

Question 21Circle any variables in the expression $3x^2 + 2x + 4$

Score

Due date	Thursday 21 st March 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.4

Name :

FAA4.4

Question 1 Work out $8.0 \times 10^5 + 1.9 \times 10^2$	Question 2 Work out $9.4 \times 10^5 - 1.1 \times 10^3$	Question 3 Expand and simplify $(x - 10)(x + 1)$	Question 4 Expand and simplify $(x - 3)(x + 3)$
Question 5 Factorise $x^2 + 4x - 21$	Question 6 Factorise $x^2 + 3x - 18$	Question 7 An antique is sold £420 making a 20% profit. What was the original price of the antique?	Question 8 A car is sold for £4200 making a 30% loss. What was the original price of the car?
Question 9 Work out $\frac{5}{8} - \frac{1}{3}$	Question 10 Work out $\frac{7}{9} \div \frac{2}{3}$	Question 11 Express as an inequality the error interval when x is given as 10 when rounded to the nearest integer	Question 12 Express as an inequality the error interval when x is given as 120 when rounded to 2 significant figures
Question 13 Solve $x^2 + 2x = 0$	Question 14 Solve $6x^2 - 21x = 0$	Question 15 The price of an item increased from £65 to £78. Calculate the percentage change	Question 16 The price of an item decreased from £120 to £78. Calculate the percentage change
Question 17 A car travels for 48 minutes at a speed of 90 km per hour. Calculate the distance travelled.	Question 18 A cyclist covers 18 km in 40 minutes. Calculate her average speed.	Question 19 Sketch the graph of $y = 4 - x$	Question 20 Sketch the graph of $y = x^3$

Question 21Circle any constants in the expression $3x^2 + 2x + 4$

Score

Due date	Thursday 28 th March 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.5

Name :

FAA4.5

Question 1 Work out $1.3 \times 10^1 + 2.9 \times 10^2$	Question 2 Work out $1.0 \times 10^4 - 2.9 \times 10^3$	Question 3 Expand and simplify $(x - 6)(x + 2)$	Question 4 Expand and simplify $(x - 5)(x - 5)$
Question 5 Factorise $x^2 + 10x + 25$	Question 6 Factorise $x^2 - 4x + 4$	Question 7 An antique is sold £150 making a 25% profit. What was the original price of the antique?	Question 8 A car is sold for £960 making a 20% loss. What was the original price of the car?
Question 9 Work out $\frac{3}{4} - \frac{2}{3}$	Question 10 Work out $\frac{2}{5} \times \frac{10}{11}$	Question 11 Express as an inequality the error interval when x is given as 99 when rounded to the nearest integer	Question 12 Express as an inequality the error interval when x is given as 500 when rounded to 1 significant figure.
Question 13 Solve $x^2 + 11x = 0$	Question 14 Solve $6x^2 - 16x = 0$	Question 15 The price of an item increased from £60 to £69. Calculate the percentage change	Question 16 The price of an item decreased from £85 to £68. Calculate the percentage change
Question 17 A car travels for 2 hours 10 minutes at a speed of 66 km per hour. Calculate the distance travelled.	Question 18 A cyclist covers 5 km in 20 minutes. Calculate her average speed.	Question 19 Sketch the graph of $y = 2x - 1$	Question 20 Sketch the graph of $y = 2x + 3$

Question 21
What is an 'exponent'?

Score

Due date	Thursday 11 th April 2024
Name	



GCSE Maths homework 10r1&2

Year 10 terms 3 & 4

Knowledge Check
Homework Sheet FAA4.6

Name :

FAA4.6

Question 1 Work out $1.1 \times 10^4 + 2.9 \times 10^3$	Question 2 Work out $2.0 \times 10^4 - 5.5 \times 10^2$	Question 3 Expand and simplify $(x - 9)(x + 8)$	Question 4 Expand and simplify $(x + 7)(x + 8)$
Question 5 Factorise $x^2 + 15x + 44$	Question 6 Factorise $x^2 + 7x - 44$	Question 7 An antique is sold £575 making a 15% profit. What was the original price of the antique?	Question 8 A car is sold for £2100 making a 30% loss. What was the original price of the car?
Question 9 Work out $\frac{1}{4} \div \frac{1}{2}$	Question 10 Work out $\frac{3}{5} - \frac{1}{4}$	Question 11 Express as an inequality the error interval when x is given as 1.9 when rounded to 1 decimal place	Question 12 Express as an inequality the error interval when x is given as 4 when rounded to 1 significant figure.
Question 13 Solve $x^2 + 12x = 0$	Question 14 Solve $4x^2 + 12x = 0$	Question 15 The price of an item increased from £120 to £138. Calculate the percentage change	Question 16 The price of an item decreased from £70 to £49. Calculate the percentage change
Question 17 A car travels for 1 hour 20 minutes at a speed of 72 km per hour. Calculate the distance travelled.	Question 18 A car travels 80km at a speed of 60 km/h. How long does the journey take?	Question 19 Sketch the graph of $y = 5 - x$	Question 20 Sketch the graph of $y = x + 5$

Question 21
What is a trapezium?

Score