



Aberdare Community School
Mathematics Department

WJEC GCSE
Higher – Non Calculator
Algebra

Proportion

Name:

Set:

Date:

Teacher:

21. Given that g is proportional to h^2 , and that $g = 1$ when $h = 3$,

(a) find an expression for g in terms of h ,

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[3]

(b) find g when $h = 2$.

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[1]

19. Given that y is inversely proportional to x , and that $y = 4$ when $x = 6$,

(a) find an expression for y in terms of x ,

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[3]

(b) complete the following table for values of x and y .

| | | | |
|-----|---------------|---|---|
| x | $\frac{1}{2}$ | 6 | |
| y | | 4 | 3 |

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[2]

17. Given that y is inversely proportional to x , and that $y = 3$ when $x = 8$,

(a) find an expression for y in terms of x ,

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[3]

(b) complete the following table for values of x and y .

| | | | |
|-----|---------------|---|---|
| x | $\frac{1}{2}$ | | 8 |
| y | | 4 | 3 |

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[2]

20. Given that g is inversely proportional to h^2 , explain what happens to g when the value of h is halved.

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[4]

15. Given that y is inversely proportional to x , and that $y = 5$ when $x = 2$,

(a) find an expression for y in terms of x ,

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[3]

(b) complete the following table for values of x and y .

| | | | |
|-----|----|---|-----|
| x | -4 | 2 | |
| y | | 5 | 0.2 |

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[2]

12. Given that y is inversely proportional to x^2 , and that $y = 4$ when $x = 5$,

(a) find an expression for y in terms of x ,

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[3]

(b) use the expression you found in (a) to complete the following table.

| | | | |
|-----|----|---|---|
| x | -1 | 5 | |
| y | | 4 | 1 |

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[2]

14. Given that y is inversely proportional to x^2 , and that $y = 2$ when $x = 5$,

(a) find an expression for y in terms of x ,

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[3]

(b) calculate

(i) the value of y when $x = 2$,

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(ii) a value of x when $y = 0.5$.

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[3]

13. Given that y is inversely proportional to x^2 , and that $y = 10$ when $x = 12$, find an expression for y in terms of x .

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[3]

17. Given that y is inversely proportional to x , and that $y = 50$ when $x = 2$,

(a) find an expression for y in terms of x ,

[3]

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(b) use the expression you found in (a) to complete the following table.

[2]

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|-----|---------------|----|------|
| x | $\frac{1}{2}$ | 2 | |
| y | | 50 | 12.5 |

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