

Year 10 Spring Term Homework Booklet

Name:

Form:

Week Homework	Due Date	Complete
1		
2		
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7		
Half Term		

Week Homework	Due Date	Complete
1		
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Easter		

Remember to show all your calculations for each question.

Half Term One

Week 1

- 1 **Expand and simplify** $4(2x + 3) + 3(x - 4)$
- 2 **Work out** $1\frac{1}{3} \div 1\frac{3}{4}$
- 3 **Work out** $16 - 3 \times 2^2$
- 4 **Factorise** $14x + 35$
- 5 Express 657000 in **standard form**
- 6 Find the next **2 terms** 5, 15, 45, **?, ?**
- 7 **Work out** 2.7×9.4
- 8 Make **x the subject** of the formula $y = ax + b$
- 9 **Expand** $(x + 3)^2$
- 10 **Simplify** $\frac{x}{2} + \frac{x}{3}$

Answer	Working Out
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Week 2

- 1 **Expand and simplify** $3(2x + 3) - 2(x - 2)$
- 2 **Work out** $1\frac{1}{5} \div \frac{5}{6}$
- 3 **Work out** $50 - (3 + 2) \times 2^2$
- 4 **Factorise** $x^2 + 15x$
- 5 Express 89000000 in **standard form**
- 6 Find the next **2 terms** 4, 8, 16, **?, ?**
- 7 **Work out** $33 \div 2.2$
- 8 Make **x the subject** of the formula $y = ax - b$
- 9 **Expand** $(x - 4)^2$
- 10 **Simplify** $\frac{x}{2} + \frac{x}{5}$

Answer	Working Out
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Week 3

- 1 **Expand and simplify** $2(2x + 1) - 2(x + 2)$
- 2 **Work out** $2\frac{1}{5} \div \frac{11}{12}$
- 3 **Work out** $50 \div 2 + 2 \times 2^2$
- 4 **Factorise** $12x^2 + 6$
- 5 Express 6850 in **standard form**
- 6 Find the next **2 terms** 4, 12, 36, **?, ?**
- 7 **Work out** 3.3×2.2
- 8 Make **x the subject** of the formula $y = \frac{x+a}{b}$
- 9 **Expand** $(x - 4)(x + 4)$
- 10 **Simplify** $\frac{x}{3} + \frac{x}{5}$

Answer	Working Out
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Week 4

- 1 **Expand and simplify** $2(2x - 3) - 3(x - 1)$
- 2 **Work out** $1\frac{2}{3} \div 1\frac{1}{5}$
- 3 **Work out** $50 \div (4 - 2) \times 2^2$
- 4 **Factorise fully** $12x^2 + 18x$
- 5 Express 602000000 in **standard form**
- 6 Find the next **2 terms** 3, 15, 75, **?, ?**
- 7 **Work out** $45 \div 2.5$
- 8 Make **x the subject** of the formula $y = \frac{x - a}{b}$
- 9 **Expand** $(x - 4)(x - 6)$
- 10 **Simplify** $\frac{2x}{3} + \frac{x}{5}$

Answer	Working Out
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Week 5

- 1 **Expand and simplify** $4(x - 3) - 2(x - 1)$
- 2 **Work out** $1\frac{1}{4} \div 1\frac{2}{3}$
- 3 **Work out** $5 \times (4 - 2) \div 2^2$
- 4 **Factorise fully** $2x^2 + 2x$
- 5 Express 506500 in **standard form**
- 6 Find the next **2 terms** 5, 10, 20, **?, ?**
- 7 **Work out** $60 \div 1.5$
- 8 Make **x the subject** of the formula $y = \frac{a - x}{b}$
- 9 **Expand** $(x - 5)(x + 2)$
- 10 **Simplify** $\frac{x}{8} + \frac{2x}{5}$

Answer	Working Out
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Week 6

- 1 **Expand and simplify** $5(x - 3) - 2(x - 1)$
- 2 **Work out** $2\frac{1}{3} \div 1\frac{2}{5}$
- 3 **Work out** $5^2 \times 2 + (4 - 2) \times 2^2$
- 4 **Factorise fully** $x^2y + xy^2$
- 5 Express 10000000000 in **standard form**
- 6 Find the next **2 terms** 2, 10, 50, **?, ?**
- 7 **Work out** 4.5^2
- 8 Make **x the subject** of the formula $y = \frac{x}{a} - b$
- 9 **Expand and simplify** $(4 - x)(x + 3)$
- 10 **Simplify** $\frac{2x}{7} + \frac{x}{4}$

Answer	Working Out
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Week 7

- 1 **Expand and simplify** $4(2x - 3) - 2(2 - x)$
- 2 **Work out** $1\frac{4}{5} \div 1\frac{2}{5}$
- 3 **Work out** $(5 + 2)^2 - (4 - 2) \times 5$
- 4 **Factorise fully** $5x^2 + 10xy^2$
- 5 Express 54000 in **standard form**
- 6 Find the next **2 terms** 5, 20, 80, **?, ?**
- 7 **Work out** 6.5^2
- 8 Make **x the subject** of the formula $y = \frac{ax}{b}$
- 9 **Expand and simplify** $(2 - x)(x + 2)$
- 10 **Simplify** $\frac{3x}{8} + \frac{x}{3}$

Answer	Working Out
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Please complete over the course of the first half term.

Half Term Two

Week 1

- 1 **Simplify** $8x^2 \times 2x^6$
- 2 **Factorise** $x^2 - 9$
- 3 If $x = 3$ work out the value of $2x^2 - 3x$
- 4 The **nth term** = $2 \times 3^{n-1}$. Find the 5th term
- 5 **Estimate** 435×5.3
- 6 What is the **highest common factor** of 54 and 96
- 7 **Expand and simplify** $(x + 5)^2$
- 8 Express 0.0045 in **standard form**
- 9 Mass = 1000 g , Volume = 20 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = a(x + b)$

Answer	Working Out
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Week 2

- 1 **Simplify** $(8x^4) \div (2x^3)$
- 2 **Factorise** $x^2 - 49$
- 3 If $x = 2$ work out the value of $7x^2 - 4x + 5$
- 4 The **nth term** = $1 \times 2^{n-1}$. Find the 7th term
- 5 **Estimate** $19.45 \div 0.495$
- 6 What is the **highest common factor** of 45 and 150?
- 7 **Expand and simplify** $(x - 4)^2$
- 8 Express 0.0154 in **standard form**
- 9 Mass = 80g , Volume = 16 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = a(x - b)$

Answer	Working Out
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Week 3

- 1 **Simplify** $(20x^3y) \div (4x)$
- 2 **Factorise** $x^2 - 81$
- 3 If $x = 5$ work out the value of $100 - 2x^2$
- 4 The **nth term** $= 2 \times 5^{n-1}$. Find the 3rd term
- 5 **Estimate** $20.45 \div 0.246$
- 6 What is the **lowest common multiple** of 45 and 18?
- 7 **Expand and simplify** $(x - 6)^2$
- 8 Express 0.0004 in **standard form**
- 9 Mass = 160g , Volume = 20 cm³, **density = ?**
- 10 Make **x the subject** of the formula $y = ax^2$

Answer	Working Out
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Week 4

- 1 **Simplify** $2x^3y \times 4xy^2$
- 2 **Factorise** $x^2 - 121$
- 3 If $x = 5$ work out the value $2x^2 + 10x - 5$
- 4 The **nth term** $= 2 \times 4^{n-1}$. Find the 4rd term
- 5 **Estimate** $6.5 \div 0.149$
- 6 What is the **lowest common multiple** of 27 and 12?
- 7 **Expand and simplify** $(x - 1)^2$
- 8 Express 0.000024 in **standard form**
- 9 Mass = 8g , Volume = 16 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = x^2 + a$

Answer	Working Out
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Week 5

- 1 **Simplify** $5x^2y \times 5x^3y^2$
- 2 **Factorise** $x^2 - 169$
- 3 If $x = -2$ work out the value $2x^2 + 3x$
- 4 The **nth term** $= 1 \times 5^{n-1}$. Find the 5th term
- 5 **Estimate** $0.48 \div 0.0022$
- 6 What is the **highest common factor** of 80 and 96?
- 7 **Expand and simplify** $(x + 8)^2$
- 8 Express 0.00000105 in **standard form**
- 9 Mass = 100g , Volume = 8 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = x^2 - a$

Answer	Working Out
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Week 6

- 1 **Simplify** $(5x^4y^5) \div (5x^3y^2)$
- 2 **Factorise** $4x^2 - 1$
- 3 If $x = -1$ work out the value $2x^2 - 6x$
- 4 The **nth term** = $3 \times 10^{n-1}$. Find the 4th term
- 5 **Estimate** $2.059 \div 0.00495$
- 6 What is the **highest common factor** of 70 and 98?
- 7 **Expand and simplify** $(2 - x)^2$
- 8 Express 0.105 in **standard form**
- 9 Mass = 500g , Volume = 25 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = \sqrt{x} - a$

Answer	Working Out
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Week 7

- 1 **Simplify** $(10x^4y^5) \div (2xy^5)$
- 2 **Factorise** $9x^2 - 4$
- 3 If $x = -3$ work out the value $4x^2 - 2x$
- 4 The **nth term** $= 3 \times 2^{n-1}$. Find the 5th term
- 5 **Estimate** $2587 \div 0.198$
- 6 What is the **highest common factor** of 75 and 90?
- 7 **Expand and simplify** $(9 - x)^2$
- 8 Express 0.0245 in **standard form**
- 9 Mass = 10g , Volume = 40 cm³, **density** = ?
- 10 Make **x the subject** of the formula $y = \sqrt{x} + a$

Answer	Working Out
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Termly Project.

To be completed the second Spring Half Term.

Create a revision booklet including six topics from this half term.

Booklet must include descriptions on how to complete work and worked examples.

It must visually be colourful and draw attention to key points needed to revise the topics chosen.

Hint: Look at revision guides for maths on the internet.