Cycle 1 mock exam preparation: aiming for a grade 6 (higher)

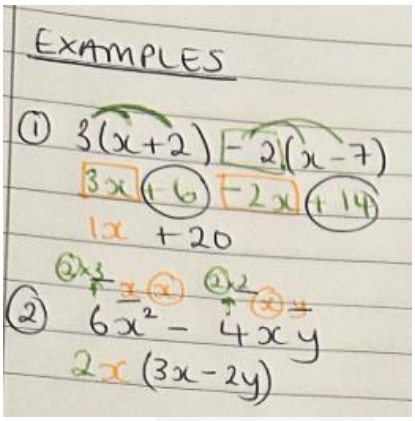
W/C Monday 22 September

Revision timetable:

	Monday 22 September	Tuesday 23 September	Wednesday 24 September	Thursday 25 September	Friday 26 September	Saturday 27 September	Sunday September 28
Securing grade 4: foundation	• Collecting like terms • Expanding and factorising single brackets	• Expanding double brackets • Factorising double brackets	• Solving linear equations (one and two steps and unknown on both sides)	• Order of operations, integer powers / roots	• Percentages of amounts and percentage change	• HCF, LCM, product of primes	• Angle facts and parallel lines

Notes

- 20 marks = 20 minutes (time yourself!)
- Show all of your working out
- Use the link to CorbettMaths to look at videos to support



1. Simplify $8c + 3d - c + 2d$

(2 marks)

2. Simplify $2x - 3y - 6x - 4y$

(2 marks)

3.

a) Simplify $2a \times 3b$

(1 mark)

b) Simplify $2p \times 2p$

(1 mark)

c) Simplify $\frac{7x + 5x}{4}$

(1 mark)

4.

a) Simplify $a^2 + a^2 + a^2$

(1 mark)

b) Simplify $4a + 2 - 7a + a - 6$

(2 marks)

5. Simplify $4a + 3b - a + 3b + 6$

(2 marks)

6. Expand and Simplify $4(g + 5) + 3(g - 2)$

(2 marks)

7. Expand and Simplify $6(y + 3) - 5(y - 4)$

(2 marks)

8.a) Factorise $15y - 6$

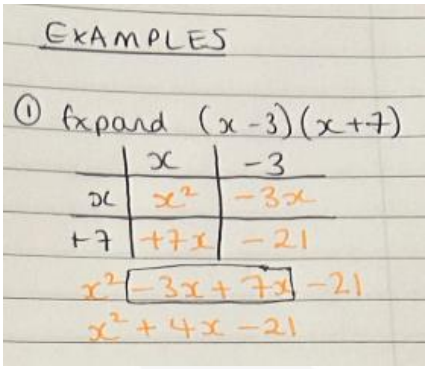
(1 mark)

b) Factorise $x^2 - 9x$

(1 mark)

9. Factorise fully $6x^2 - 4xy$

(2 marks)



1. Expand and simplify $(x + 7)(x - 3)$

(2 marks)

2. Expand and simplify $(x - 2)(x - 9)$

(2 marks)

3. Expand and simplify $(2x + 3)(3x - 1)$

(2 marks)

4. Expand and simplify $(2x - 1)(x + 4)$

(2 marks)

5. Expand and simplify $(2p - 3)(p - 5)$

(2 marks)

6. Factorise $a^2 + 15a + 36$

(2 marks)

7. Factorise $n^2 + 3n - 28$

(2 marks)

8. Factorise $x^2 - 13x + 36$

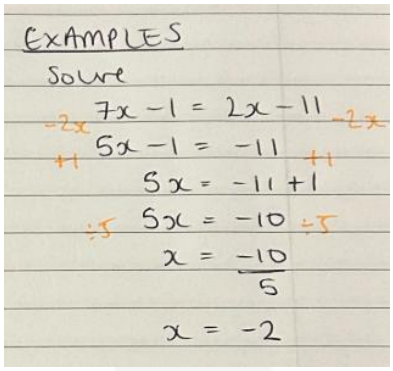
(2 marks)

9. Factorise $n^2 - 3n - 18$

(2 marks)

10. Factorise $x^2 - 49$

(2 marks)



1. Solve $3h - 5 = 12$

(2 marks)

2. Solve $6w = 4w + 9$

(2 marks)

3. Solve $\frac{y}{3} - 5 = 4$

(2 marks)

4. Solve $\frac{d+3}{4} = 5$

(2 marks)

5. Solve $24 = 4(2x - 5)$

(2 marks)

6. Solve $2m - 20 = 10 + 7m$

(2 marks)

7. Solve $10 - 2s = s - 8$

(2 marks)

8. Solve $6y + 11 = 3y + 5$

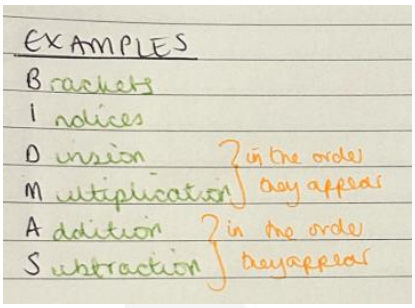
(2 marks)

9. Solve $7y + 18 = 2y + 28$

(2 marks)

10. Solve $2x + 20 = 6x - 12$

(2 marks)



1. Calculate 7 x 2 – 3 x 4

(1 mark)

2. Work out 6 + 15 ÷ 3

(1 mark)

3. Work out $3 + 10 \times 2^3$

(2 marks)

4. Calculate 5 + 2 x 9 ÷ 3

(2 marks)

5. Work out $2 + (5 + 3)^2$

(2 marks)

6. Write brackets ( ) in these statements to make each statement correct. You may use more than one pair of brackets.

a) 2 + 7 x 3 + 4 = 51

(1 mark)

b) 9 – 7 x 3 + 5 = 16

(1 mark)

7. Joey thinks the answer to $16 + 4 \times 2$ is 40

Albert thinks the answer to $16 + 4 \times 2$ is 24

Who is correct?
Explain your answer.

(2 marks)

8. Work out $\sqrt{81} - (9 - 7) \times 3$

(3 marks)

9. Work out $\sqrt[3]{1000} - (11 - 3 \times 2)^2$

(3 marks)

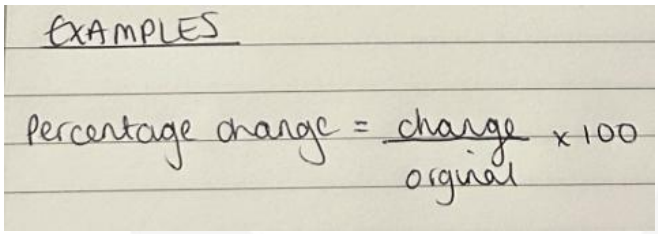
10. An estate agent is paid a weekly wage of £750 **plus** a bonus of £100 for each house sold.

Last week, the estate agent sold two houses.
Their pay is found by working out $750 + 100 \times 2$

Taniya thinks that the pay will be £1700

Explain why Taniya is wrong.

(2 marks)



1. Find 45% of 820

(2 marks)

2. Work out 75% of 300

(1 mark)

3. Freya says "50% of 30 is equal to 30% of 50."

Show Freya is correct.

(2 marks)

4. Logan has two tubs of beads.

5% of the 600 beads in Tub A are yellow.

4% of the 900 beads in Tub B are yellow.

Work out the total number of yellow beads in the tubs.

(4 marks)

6. David is paid £34000 per year.
He is going to get a 3% increase in the amount of money he is paid.

Work out how much money David will be paid per year after the increase

(3 marks)

7. Richard gets a bonus of 30% of £130
Connor gets a bonus of £40

Work out the difference between the bonus Richard gets and the bonus Connor gets

(3 marks)

8. Peter's weight decreases from 80kg to 64kg.

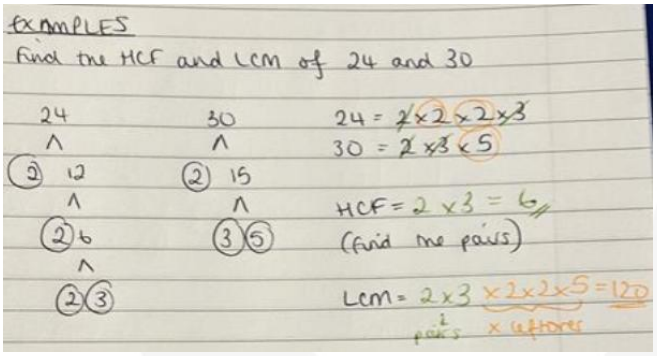
Calculate the percentage decrease in Peter's weight.

(3 marks)

9. A car is travelling at 40 kilometres per hour.
The car increases its speed to 56 kilometres per hour.

Calculate the percentage increase in the speed of the car.

(3 marks)



1. Tilly the dog barks every 9 seconds.
Billy the dog barks every 12 seconds.
They both bark at the same time.

After how many seconds will they next bark at the same time?

(2 marks)

2. Write 98 as a product of its prime factors.

(2 marks)

3. Write 240 as a product of its prime factors.

(2 marks)

4. Find the highest common factor (HCF) of 60 and 114

(3 marks)

5. Find the lowest common multiple (LCM) of 120 and 150

(3 marks)

8. Find the highest common factor (HCF) of 84 and 120

6. A number is written as a product of its prime factors as $2 \times 3^2 \times 5$

Work out the number.

(2 marks)

8. Two buses, bus A and bus B, both use the same bus stop.

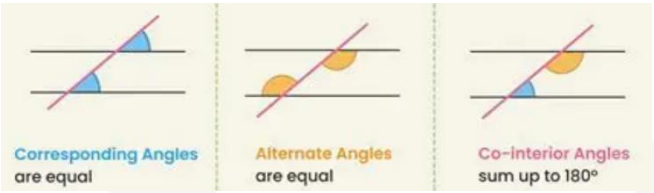
Bus A runs every 10 minutes.
Bus B runs every 14 minutes.

Both buses are at the bus stop at 11 am.

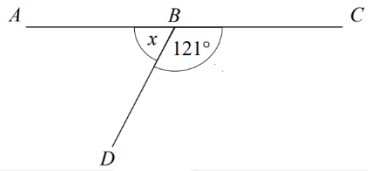
What time will both buses next both be at the bus stop.

(3 marks)

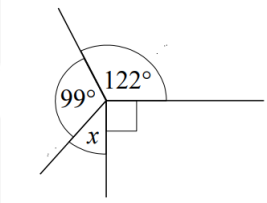
(3 marks)



1. Work out the size of the angle marked x.
Give a reason for your answer.

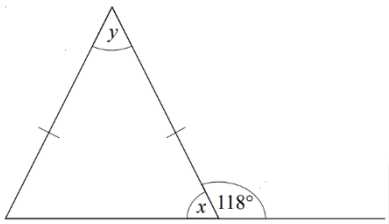
a) 

(2 marks)

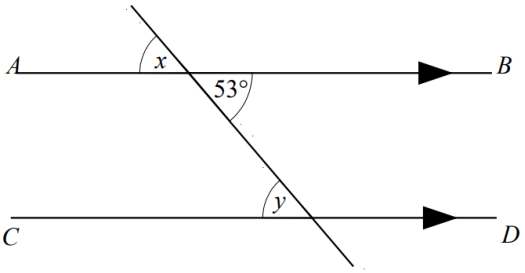
b) 

(2 marks)

2. Work out the size of the missing angles. Give reason for your answers.

a) 

(3 marks)

3. 

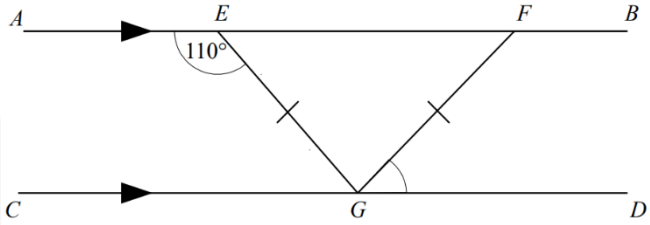
AB and CD are parallel lines.

a) Write down the size of angle x. Give reason for your answer.

(2 marks)

b) Write down the size of angle y. Give reason for your answer.

(2 marks)

4. 

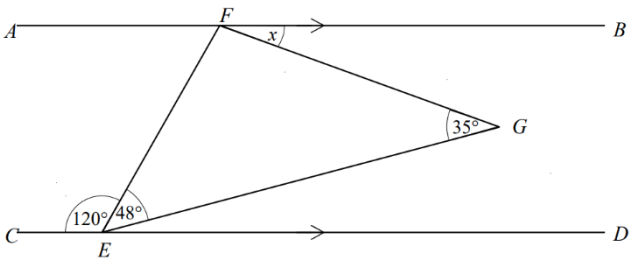
AB and CD are parallel lines.
EFG is an isosceles triangle

Angle $AEG = 110°$

Find the size of angle FGD.
Give a reason for each stage of your working.

(3 marks)

5.

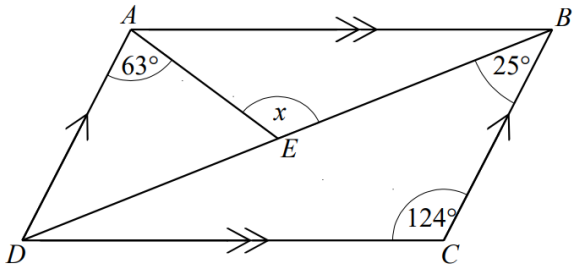


AB and *CD* are parallel.

Find the size of angle *x*.
Give a reason for each stage of your working.

(3 marks)

6.



ABCD is a parallelogram.

Angle *DAE* = 63°
Angle *BCD* = 124°
Angle *CBD* = 25°

Calculate the size of angle *x*.
Give reasons for each stage of your answer.

(3 marks)