SOLVING EQUATIONS

Pearson Edexcel - Tuesday 21 May 2019 - Paper 1 (Non-Calculator) Foundation Tier

1.

10 (a) Solve $t + t + t = 12$

$t =$ .....

(1)

(b) Solve $x - 2 = 6$

$x =$ .....

(1)

(c) Solve $6w + 2 = 20$

$w =$ .....

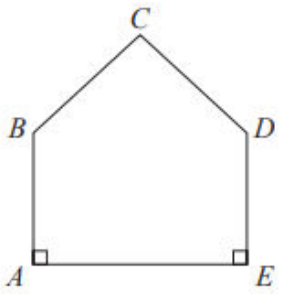
(2)

(Total for Question 10 is 4 marks)

Pearson Edexcel - Monday 12 November 2018 - Paper 3 (Calculator) Foundation Tier

2.

17 The diagram shows a pentagon.
The pentagon has one line of symmetry.



$AE = 4x$
$AB = 2x + 1$
$BC = x + 2$

All these measurements are given in centimetres.

The perimeter of the pentagon is 18 cm.

(a) Show that $10x + 6 = 18$

(3)

(b) Find the value of x.

$x =$ .....

(2)

(Total for Question 17 is 5 marks)

Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Foundation Tier

3.

11 (a) Solve $x + x + x = 51$

$x =$ .....

(1)

(b) Solve $\frac{y}{4} = 3$

$y =$ .....

(1)

(c) Solve $2f + 7 = 18$

$f =$ .....

(1)

(Total for Question 11 is 3 marks)

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Foundation Tier

4.

25 Solve $\frac{5-x}{2} = 2x - 7$

$x =$ .....

(Total for Question 25 is 3 marks)

Pearson Edexcel - Monday 6 November 2017 - Paper 2 (Calculator) Foundation Tier

5.

16 Solve $5x - 6 = 3(x - 1)$

$x =$ .....

(Total for Question 16 is 3 marks)

Pearson Edexcel – Specimen 2 - Paper 1 (Non-Calculator) Foundation Tier

6.

10 (a) Solve $3x + 7 = 1$

$x =$ .....

(2)

(b) $f = 6$
$g = 5$

Work out the value of $3f - 2g$

.....

(2)

(Total for Question 10 is 4 marks)

Pearson Edexcel – Specimen 2 - Paper 2 (Calculator) Foundation Tier

7.

17 (a) Simplify $7x + 2y - 3x + 4y$

.....

(2)

(b) Factorise $10x - 15$

.....

(1)

(c) Solve $5p = 3p + 8$

$p =$ .....

(2)

(Total for Question 17 is 5 marks)

Pearson Edexcel – Specimen 1 - Paper 2 (Calculator) Foundation Tier

8.

16 (a) Solve $4c + 5 = 11$

$c =$ .....

(2)

(b) Solve $5(e + 7) = 20$

$e =$ .....

(2)

(c) Simplify $(m^3)^2$

.....

(1)

(Total for Question 16 is 5 marks)

Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

9.

10 Complete this table of values.

n	$3n + 2$
12	.....
.....	47

(Total for Question 10 is 3 marks)

OCR – Tuesday 03 November 2020- Morning - Paper 1 (Calculator) Foundation Tier

10.

15 (a) Solve.

$\frac{x}{2} + 5 = 15$

(a) $x =$ ..... [2]

(b) Factorise.

$5a^2 - 10a$

(b) ..... [2]

(c) Solve by factorising.

$x^2 + 15x + 56 = 0$

(c) $x =$ ..... or $x =$ ..... [3]

OCR Thursday 05 November 2020- Morning (Non-Calculator) Foundation Tier

11.

21 Solve the simultaneous equations.

$2x + 3y = 10$
$3x + 5y = 17$

$x =$ .....

$y =$ ..... **[4]**

OCR November 09 November 2020- Morning (Calculator) Foundation Tier

12.

11 $5(2x+1)+c(x+d)=12x-1$

Work out the value of c and the value of d.

$c =$ .....

$d =$ ..... **[5]**

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

13.

12 Use the formula

$$v = u + at$$

to find the final velocity, when

- the initial velocity is 8 m/s
- the acceleration is 3 m/s^2
- the time is 5 seconds.

..... m/s **[2]**

14.

14 **(a)** Find the value of x in each of the following.

(i) $a^4 \times a^3 = a^x$

(a)(i) $x =$ ..... **[1]**

(ii) $(b^4)^3 = b^x$

(ii) $x =$ ..... **[1]**

(b) Factorise fully.

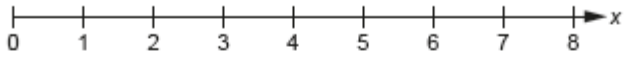
$18x^2 + 9x$

(b) ..... **[2]**

OCR Monday 12 November 2018 – Morning (Calculator) Foundation Tier

15.

7 **(a)** Show the inequality $x > 3$ on this number line.



[2]

(b) Simplify.

$$4a + 3c + 7a - 5c$$

(b) ..... **[2]**

(c) Solve.

$$\frac{2x}{3} = 4$$

(c) $x =$ ..... **[2]**

16.

11 Gill uses the formula

$$h = 2fg$$

(a) Find the value of h when $f = 1$ and $g = 3$.

(a) $h =$ ..... **[1]**

(b) Find the value of g when $h = 18$ and $f = 6$.

(b) $g =$ ..... **[2]**

OCR Monday 24 May 2018 – Morning (Calculator) Foundation Tier

17.

6 A leopard is running with a velocity of 3 m/s.
It then accelerates at 2 m/s^2 for 4 seconds.

Use the formula

$$v = u + at$$

to work out the final velocity of the leopard.

..... m/s **[2]**

Pearson Edexcel – Sample Papers - Paper 1 (Non-Calculator) Foundation Tier

18.

19 Solve $4x + 5 = x + 26$

$x =$ .....

(Total for Question 19 is 2 marks)

OCR Sample Question Paper 1 – Morning/Afternoon (Calculator) Foundation Tier

19.

17 Six equations are shown below, each labelled with a letter.

A	B	C
$y = -6x$	$x = \frac{1}{6}y$	$y = \frac{-3}{x}$
D	**E**	**F**
$x = \frac{6}{y}$	$y = 6x$	$y = \frac{2}{x} + 2$

Choose the correct letters to make each statement true.

(a) Equation **B** and equation ..... are equivalent. **[1]**

(b) Equation ..... and equation ..... each show x is inversely proportional to y. **[2]**

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

20.

12 **(a)** Solve.

$5x = 2x + 18$

(a) $x =$ ..... **[2]**

(b) Solve by factorising.

$x^2 + 8x + 15 = 0$

(b) $x =$ ..... **[3]**

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

21.

18 Amin is attempting to solve the following equation.

$$(x + 1)(x + 4) = (x - 2)(x - 3)$$

His **incorrect** solution is shown below.

	$(x + 1)(x + 4) = (x - 2)(x - 3)$
Step 1	$x^2 + 4x + x + 4 = x^2 - 3x - 2x + 6$
Step 2	$x^2 + 5x + 4 = x^2 - x + 6$
Step 3	$5x + 4 = -x + 6$
Step 4	$6x + 4 = 6$
Step 5	$6x = 2$
Step 6	$x = \frac{1}{3}$

(a) Identify the step in which Amin made his first error and explain why this step is incorrect.

.....

.....

..... **[2]**

(b) Write out a correct solution to the equation. **[2]**

OCR Sample Question Paper 3 – Morning/Afternoon (Calculator) Foundation Tier

22.

1 **(a)** Solve.

(i) $2x = 18$

(a)(i) $x =$ ..... **[1]**

(ii) $x + 2 = 5$

(ii) $x =$ ..... **[1]**

(iii) $\frac{x}{3} = 15$

(iii) $x =$ ..... **[1]**

(b) **(i)** Find the value of t when $g = 4$ and $h = 7$.

$t = 12g - 5h$

(b)(i) $t =$ ..... **[2]**

(ii) Rearrange to make r the subject.

$4r - p = q$

(ii) ..... **[2]**

AQA Tuesday 19 May 2020 – Morning (Non-Calculator) Foundation Tier

23.

14 (a) Solve $6x - 11 = 13$

[2 marks]

$x =$ _____

14 (b) Simplify fully $(2 \times 4a) + 9 + \frac{15a}{3} - 7$

[3 marks]

Answer _____

AQA Thursday 4 June 2020 – Morning (Calculator) Foundation Tier

24.

5 (a) Solve $7x = 56$

[1 mark]

$x =$ _____

5 (b) Solve $25 - y = 18$

[1 mark]

$y =$ _____

AQA Tuesday 21 May 2019 – Morning (Non-Calculator) Foundation Tier

25.

24 (a) $a + b = 0$

Which of these is equal to b?
Circle your answer.

[1 mark]

0 $\frac{1}{a}$ a $-a$

24 (b) $c \times d = 1$

Which of these is equal to d?
Circle your answer.

[1 mark]

1 $\frac{1}{c}$ c $-c$

\

AQA Thursday 8 November 2018 – Morning (Calculator) Foundation Tier

26.

20 Work out the values of a and b in the identity

$$5(7x + 8) + 3(2x + b) \equiv ax + 13$$

[4 marks]

$a =$ _____ $b =$ _____

AQA Monday 6 November 2017 – Morning (Calculator) Foundation Tier

27.

27 Solve $4(3x - 2) = 2x - 5$

[3 marks]

$x =$ _____

AQA Sample Paper 2– Morning (Calculator) Foundation Tier

28.

29 Circle the equation with roots 4 and –8

[1 mark]

$4x(x - 8) = 0$ $(x - 4)(x + 8) = 0$

$x^2 - 32 = 0$ $(x + 4)(x - 8) = 0$