Name:

## Exam Style Questions

## Forming Expressions

Corbettm$\alpha$ths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

**Guidance**

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 16

1. Apples cost *a* pence each.
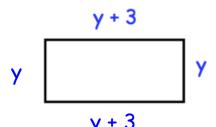   Bananas cost *b* pence each.

   Write down an expression for the total cost, in pencil, of 3 apples and 5 bananas.

   $3a + 5b$
   .............................pence
   **(2)**

2. Martin is x years old.
   Jennifer is 3 years younger than Martin.
   Connor is twice as old as Martin.

   (a) Write an expression for Jennifer's age.

   $x - 3$
   .............................
   **(1)**

   (b) Write an expression for Conner's age.

   $2x$
   .............................
   **(1)**

   (c) Write an expression for the sum of the three ages

   $x + (x - 3) + 2x$

   $4x - 3$
   .............................
   **(2)**

3.

$y + 3$

$y$ ⬚ $y$

$y + 3$

The diagram shows a rectangle. All measurements are in centimetres.

Write an expression, in terms of y, for the perimeter of the rectangle.

$y + y + (y + 3) + (y + 3)$

$4y + 6$
..........................cm

(2)

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4. Nicola has y marbles.
Sean has 25 marbles.
Vicky has 10 marbles.

(a) Write down an expression for the total number of marbles they have.

$y + 25 + 10$

$y + 35$
..........................

(2)

Altogether they have 55 marbles.

(b) Find how many marbles Nicola has.

$y + 35 = 55$
$\quad - 35 \quad - 35$
$\quad\quad y = 20$

...20...........
(1)

**5.**
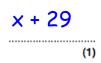
The express bus from Dublin to Belfast takes $x$ minutes.

The standard bus takes 29 minutes longer.

(a) Write down an expression for the time the standard bus takes.

$x + 29$

.....................................
(1)

The airplane takes half the time the express bus takes.

(b) Write down an expression for the time the airplane takes.

$\frac{x}{2}$

.....................................
(1)

$\frac{1}{2}x$

6. In one week, Gina spent *x* minutes on the internet.
Sammy spent 15 minutes less than Gina.

(a) Write down an expression for how long Sammy spent on the internet.

$x - 15$
.................................
(1)

Neil spent three times as long as Gina on the internet.

(b) Write down an expression for how long Neil spent on the internet.

$3x$
.................................
(1)

(c) Write down an expression for total time spent on the internet.

$x + (x - 15) + 3x$

$5x - 15$
.................................
(1)

7. Fred is 21 years old.
Hannah is *y* years younger than Fred.

Write an expression for Hannah's age.

$21 - y$
.................................
(1)

8.

| Input | → | x 4 | → | - 15 | → | Output |

(a) Work out the output, when the input is 10.

$4 \times 10 = 40$

$40 - 15 = 25$

25
............................
(1)

(b) Work out the input, when the output is 25.

$25 + 15 = 40$

$40 \div 4 = 10$

10
............................
(1)

(c) Write an expression for the output, if the input is y.

$4 \times y = 4y$

$4y - 15$

$4y - 15$
............................
(1)

(d) If the input is the same as the output, work out the input.

$x = 4x - 15$

$+15 \qquad +15$

$x + 15 = 4x$

$-x \qquad\quad -x$

$15 = 3x$

$\div 3 \qquad \div 3$

$5 = x$

5
............................
(1)

9.   In a school canteen, a cup of tea costs 60p.

(a) Write down an expression for the cost, in pence, of *y* cups of tea.

60y

...........................pence

(1)

The canteen sells twice as many cups of coffee as it does cups of tea.

(b) Write down an expression for the cups of coffee sold when *y* cups of tea are sold.

2y

...............................

(1)

Each cup of coffee costs 80p.

(c) Write down an expression for the cost, in pence, of the cups of coffee sold.

2y x 80 = 160y

160y

.......................pence

(1)

The canteen also sells biscuits and fruit.

(d) Write down an expression for the cost, in pence, of *w* biscuits at 15p each and 8 pieces of fruit at 30p each.

biscuits: 15w
fruit: 8 x 30 = 240

15w + 240

...........................pence

(1)

10. An airplane has economy and first class seating.
There are *s* seats in each row in economy.
There are *t* seats in each row in first class.

There are 9 rows in first class and 24 rows in economy.

Write down an expression, in terms of *s* and *t*, for the number of seats on the airplane.

9t + 24s

(2)