

Marks are indicated in brackets after each question number

2014 Paper 2 Question 3, (2)

a) $5a + 3c = 158.25$

b) $3a + 2c = 98$

c) $5a + 3c = 158.25$ (1)

$3a + 2c = 98$ (2)

Multiplying (1) by 2 and (2) by 3 gives

$10a + 6c = 316.5$ (3)

$9a + 6c = 294$ (4)

(3) – (4) gives

$a = 316.5 - 294 = 22.5$

Substituting into (2) gives

$(3 \times 22.5) + 2c = 98$

$c = 15.25$

So, an adult ticket costs £22.50 and a child ticket costs £15.25

2015 Paper 1 Question 11, (3)

$$3x + 2y = 17 \quad (1)$$

$$2x + 5y = 4 \quad (2)$$

Multiply (1) by 2 and (2) by 3 to give

$$6x + 4y = 34 \quad (3)$$

$$6x + 15y = 12 \quad (4)$$

(4) - (3) gives

$$11y = -22$$

$$y = -2$$

Substituting $y = -2$ into (2) gives

$$2x + 5 \cdot (-2) = 4$$

$$2x - 10 = 4$$

$$2x = 14$$

$$x = 7$$

2016 Paper 1 Question 4, (1) (1) (4)

a) $2c + 3d = 9.6$

b) $3c + 4d = 13.3$

c) $2c + 3d = 9.6 \quad (1)$

$$3c + 4d = 13.3 \quad (2)$$

Multiply (1) by 3 and (2) by 2 to give

$$6c + 9d = 28.8 \quad (3)$$

$$6c + 8d = 26.6 \quad (4)$$

(3) - (4) gives

$$d = 2.2$$

Substitute $d = 2.2$ into (1) to give

$$2c + (3 \times 2.2) = 9.6$$

$$2c + 6.6 = 9.6$$

$$2c = 3$$

$$c = 1.5$$

Dress requires $2.2 m^2$ and cloak requires $1.5 m^2$

2017 Paper 1 Question 13, (3)

$$3x - y = 2 \quad (1)$$

$$x + 3y = 19 \quad (2)$$

Multiplying (1) by three gives

$$9x - 3y = 6 \quad (3)$$

$$x + 3y = 19 \quad (2)$$

(3) + (2) gives

$$10x = 25$$

$$x = 2.5$$

Substitute $x = 2.5$ into (1) to give

$$(3 \times 2.5) - y = 2$$

$$7.5 - y = 2$$

$$y = 5.5$$

So, P = (2.5, 5.5)

2018 Paper 1 Question 3, (3)

$$4x + 5y = -3 \quad (1)$$

$$6x - 2y = 5 \quad (2)$$

Multiply (1) by 2 and multiply (2) by 5 to give

$$8x + 10y = -6 \quad (3)$$

$$30x - 10y = 25 \quad (4)$$

(3) + (4) gives

$$38x = 19$$

$$x = 0.5$$

Substitute $x = 0.5$ into (1) to give

$$4 \times 0.5 + 5y = -3$$

$$2 + 5y = -3$$

$$5y = -5, y = -1$$

2019 Paper 1 Question 8, (1) (1) (4)

a) $7c + 3g = 215$

b) $5c + 4g = 200$

c) $7c + 3g = 215 \quad (1)$

$$5c + 4g = 200 \quad (2)$$

Multiply (1) by 4 and multiply (2) by 3 to give

$$28c + 12g = 860 \quad (3)$$

$$15c + 12g = 600 \quad (4)$$

(3) - (4) gives

$$13c = 260$$

$$c = 20$$