Forming and Solving Equations Exam Practice

Q1. Solve the following pair of equations

$$4x - y = 9$$

$$2x - y = -11$$

(4 marks)

Q2. Solve the following pair of equations

$$2x + 3y = 11$$

$$5x + 4y = 9$$

(4 marks)

Q3. Solve the following pair of equations

$$2a = 13 - 3b$$

$$6b = a - 4$$

(4 marks)

Q4. Solve the following pair of equations

$$2c - d = 5$$

$$\frac{c}{4} + \frac{d}{3} = 2$$

(4 marks)

Q5. Solve the following pair of equations

$$0.8x + 0.2y = 5$$

$$0.2x + y = -1.6$$

(4 marks)

Q6. Solve the following pair of equations

$$-120a - 150b + 1050 = 0$$

$$6b + 32a = 178$$

(4 marks)

Q7. Solve the following pair of equations

$$2x = 14 - 3y$$

$$\frac{8x - 5y}{3} = 7$$

(5 marks)

Q8. Given that k is a number such k$\neq 0$ and k$\neq \frac{1}{3}$, solve the following pair of equations, giving your answer in terms of k:

$$2ky - x = 6$$

$$y + 3x = 6k - 16$$

(5 marks)

Applied Mixed Practice Problems

Q9. The sum of Mary's parents is 84. The difference of their ages is 8.

(i) Write an equation for the sum of their ages and an equation for the difference of their ages.

(2 marks)

(ii) Solve the equations in part (a) to find the age of each of Mary's parents.

(2 marks)

Q10. 6 years ago, Tony was five times older than Simon. Now, Tony is three times older than Simon. Work out the age of Tony and Simon.

(3 marks)

Q11. In a sweet shop, Bill spends £3.69 on 4 chocolate bars and 3 lollipops. Ben spends £3.96 on 6 chocolate bars and 2 lollipops.

(i) Find the cost of a chocolate bar and the cost of a lollipop.

(4 marks)

(ii) Harry has £5. Can he afford 8 lollipops? You must show your working.

(2 marks)

Q12. Three bananas and two oranges cost 95p. Fifty bananas and thirty oranges cost £15.10. Find the cost of eight bananas and 4 oranges.

(6 marks)

Q13. A taxi charges a price for each mile, £m, and a fixed charge, £c. Rana travels 50 miles, which costs her £155 in total. Amit travels 80 miles, which costs £230 in total.
One morning, Saul wish to take a taxi to Denton which is 36 miles away, to visit some friends. Later that day, he wishes to come home using the same taxi cab. How much would Saul spend in total?

(6 marks)

Q14. To join a company, candidates must complete a series of question papers. When Charles and Debby both have one paper left to do, their mean scores are identical. Charles scores 81% on his last paper and his mean score is now 72% . Debby scores 55% on her last paper and her mean score is now 70% .
Determine the number of papers which were completed by each of the candidates.

(5 marks)