National 5 Mathematics

Rearranging Formulae - Solutions

Marks are indicated in brackets after each question number

2014 Paper 2 Question 11, (3)

$$s = ut + \frac{1}{2}at^2$$

$$s - ut = \frac{1}{2}at^2$$

$$2s - 2ut = at^2$$

$$\frac{2s - 2ut}{t^2} = a$$

2016 Paper 2 Question 12, (3)

$$L = \sqrt{4kt - p}$$

$$L^2 = 4kt - p$$

$$L^2 + p = 4kt$$

$$\frac{L^2 + p}{4t} = k$$

2017 Paper 1 Question 10, (3)

$$F = \frac{t^2 + 4b}{c}$$

$$Fc = t^2 + 4b$$

$$Fc - t^2 = 4b$$

$$b = \frac{Fc - t^2}{4}$$

2018 Paper 1 Question 14 (3)

$$y = g\sqrt{x} + h$$

$$g\sqrt{x} = y - h$$

$$\sqrt{x} = \frac{y - h}{g}$$

$$x = (\frac{y - h}{g})^2$$

2019 Paper 1 Question 7 (3)

$$A = \frac{1}{2}h(x + y)$$

$$2A = h(x + y)$$

$$2A = hx + hy$$

$$2A - hy = hx$$

$$x = \frac{2A - hy}{h}$$

2022 Paper 1 Question 7, (2)

$$D = \frac{B + 4}{C^2}$$

$$DC^2 = B + 4$$

$$B = DC^2 - 4$$

2023 Paper 2 Question 7, (3)

$$P = \frac{1}{3}mn - r$$

$$P + r = \frac{1}{3}mn$$

$$3(P + r) = mn$$

$$m = \frac{3(P + r)}{n}$$

2024 Paper 2 Question 9, (4)

$$f = \frac{2d + 3}{e}$$

$$fe = 2d + 3$$

$$fe - 3 = 2d$$

$$d = \frac{fe - 3}{2}$$

2025 Paper 2 Question 9, (3)

$$B = \frac{1}{4} kc^2 - 3c$$

$$B + 3c = \frac{1}{4} kc^2$$

$$4B + 12c = kc^2$$

$$k = \frac{4B + 12c}{c^2}$$