

Maths exam

1)

$$a) = x + \textcircled{x^{17}}$$

$$b) = 2^2 = 4^4 = 16 \times 8$$

$$16 \times 8 \times 3 \times 3 = \textcircled{48 \times 11}$$

$$c) \frac{x^2 \times x^{10} \times x}{x^3 \times \textcircled{x^{10}}}$$

$$\frac{x^3}{x^3} = \textcircled{x^0}$$

$$d) 2\sqrt{x} \times 3\sqrt{x} = \textcircled{6x}$$

$$e) 1 = 1 = \textcircled{x}$$

$$2) 7x - 1 = 5x + 4$$

$$7x - 5x = 1 + 4$$

$$2x = 5$$

$$\textcircled{x = \frac{5}{2}}$$

$$b) 10(3x+2) = 7(-2x-1)$$

$$30x + 20 = -14x - 7$$

$$30x + 14x = 20 - 7$$

$$44x = -27$$

$$\textcircled{x = -\frac{27}{44}}$$

$$x = \textcircled{-\frac{27}{44}}$$

$$c) \frac{3}{(2x+1)} = \frac{4}{(x-1)}$$

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

$$3x - 3 = 8x + 4$$

$$3x - 8x = 3 + 4$$

$$-5x = 7$$

$$x = \frac{7}{-5}$$

$$d) (x+2)^2 = (x+3)(x+5)$$

$$\textcircled{x^2 + 4x + 4} = x^2 + 3x + 5x + 15$$

$$\textcircled{x^2 + 4x + 4} = x^2 + 8x + 15$$

$$4x + 4 = 8x + 15$$

$$4x - 8x = 15 - 4$$

$$-4x = 11$$

$$\textcircled{x = -\frac{11}{4}}$$

$$3) x^2 + 9x + 14 = 0$$

$$x^2 + 7x + 2x + 14 = 0$$

$$x(x+7) + 2(x+7) = 0$$

$$(x+7)(x+2) = 0$$

$$\textcircled{x+7=0} \quad x+7=0$$

$$\textcircled{x+2=0} \quad x+2=0$$

$$\textcircled{x=-7}$$

$$\textcircled{x=-2}$$