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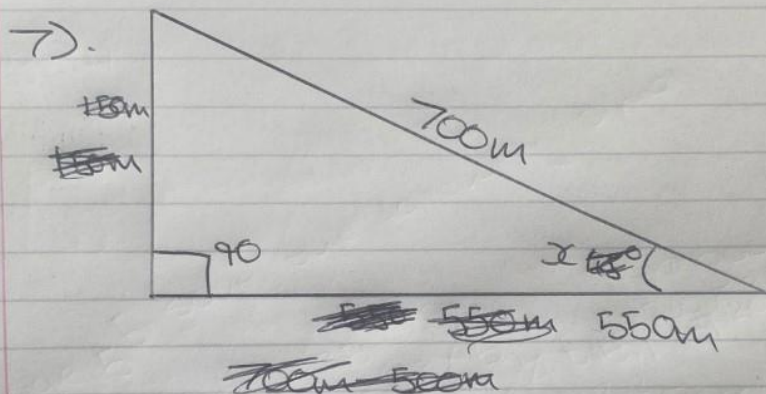
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$$700^2 - 550^2 = 187,500$$
$$\sqrt{1875000}$$

$$433m$$

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5. Solve the following simultaneous equations.

$$6x + 5y = 35 \quad \textcircled{1} \times 4$$

$$7x - 4y = 31 \quad \textcircled{2} \times 5$$

$$24x + 20y = 140 \quad \textcircled{3}$$

$$35x - 20y = 155 \quad \textcircled{4}$$

$$59x = 295 \quad \frac{295}{59} = 5$$

$$x = 5 \quad \text{Sub in } \textcircled{1}$$

$$30 + 5y = 35$$

$$35 - 30 = 5y$$

$$5y = 5$$

$$5 \div 5 = 1$$

$$y = 1$$

$$x = 5 \quad y = 1$$

$$6. 10p^3q^2 - 5p^2q + 15p^4q$$

$$10p^3 - 5p^2 = 5p + 1 \quad 5p^4 = 20p^5$$

$$q^2 - q = -q^2 + q = q^2$$

$$20p^5 + q^2$$

$$2x^2y - 4xy^4$$

$$2x^2 - 4x = -2x^2$$

$$y - y^4 = -y^4$$

$$-2x^2 - y^4$$

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$$(iii) \quad x^2 + 8x - 20 = 0 \quad -2 \quad 10$$
$$(x-2)(x+10)$$

$$x-2=0 \quad x+10=0$$

$$x=2 \quad x=-10$$

$$(iv) \quad x^2 - 49 = 0$$
$$(x+7)(x-7)$$

$$x+7=0 \quad x-7=0$$

$$x=-7 \quad x=7$$

$$(v) \quad 2x^2 - 3x - 20 = 0$$

~~4c = -15~~

4) use the quadratic formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ to find the roots to the following quadratic equation. $17x^2 = -5x + 14$

$$\frac{-5 \pm \sqrt{5^2 - 4(17 \times 14)}}{34}$$
$$\frac{-5 \pm \sqrt{-25 - 952}}{34}$$

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2. Solve the following linear equations for x .

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

$(x+2)(x+2) =$

3. Solve the following quadratic equations by using the factorisation method -

(i) $x^2 + 9x + 14 = 0$

$7 \quad 2$

$7 \times 2 = 14$

$x^2 + 9 + 14 = 0$

$7 + 2 = 9$

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

(ii) $x^2 - 7x + 10 = 0$

$x^2 - 7x + 10 = 0$

$-2 \quad -5$

$(x-2)$	$(x-5)$
$x = 2$	$x = 5$

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2. Solve the following linear equations for x :

$$(i) 7x - 1 = 5x + 4$$

$$\cancel{7x} - 5x = \cancel{1} + 4$$

$$2x = 5 \quad \frac{5}{2} = 2.5$$

$$x = 2.5$$

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

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

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

$$44x = -27$$

$$\frac{-27}{44} = x = 0.6$$

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

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

$$4 \cdot 8$$

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

$$5x = -7$$

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

$$x = -1.4$$

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1. Express the following as x to a power

(i) $x^6 \times x^8 \times x^2 \times x$ $1+6+8+2=17$
 $= \boxed{x^{17}}$

(ii) $(2x^2)^4 \times 3x^3$

$16x^8 \times 3x^3 = \boxed{48x^{11}}$ ← eleven.

(iii)

$\frac{x^2 \times x^{10} \times x}{x^3} = \boxed{x^{10}}$

(iv) $2\sqrt{x} \times 3\sqrt{x}$

$2 \times 3 = 6$

$x \times x = x^2$

$= \boxed{6x^2}$

(v) $1 \times x = \boxed{x}$