

Tutorial 2

1. Solve the following:

a) $2x + 6x + 24 = 1$	b) $2x + 5 = 3x + 12$	c) $3(x + 2) - 4(x - 1) = 5$
d) $0.3t + 0.2(t + 10) = 5$	e) $\frac{x}{2} + \frac{x}{3} = 10$	f) $\frac{h+7}{2} + \frac{1}{3} = \frac{1}{2} - \frac{2h+9}{9}$

2. Solve the unknowns in the square brackets:

a) $d = t \left(1 - \frac{1}{u} \right), [u]$ $d = 3, t = 12$	b) $C = \frac{nE}{R + nr}, [n]$ $C = 3.5, E = 17, R = 6, r = 4$	c) $c^2 = (x - a)^2 + b^2, [x]$ $a = 16, b = 15, c = 17$
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3. Solving of problems:

Basic steps of solving problems:

1. Define a symbol to represent the unknown or use standard symbol of a formula to represent the unknown.
2. Set up equation according to the condition of the question. (use formula if possible)
3. Substitute the data into the equation
4. Solve the equation

3	Two common scales used to measure temperature are the Fahrenheit and the Celsius scales. The formula $F = \frac{9}{5}C + 32$ converts degrees Celsius to degrees Fahrenheit. Now the temperature of an object is 98.6F, what is its temperature in Celsius?	Explanation
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4	The perimeter of a rectangle is 20cm. Its length is 6cm. Find its width.	Explanation
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5	The sum of two consecutive numbers is 19. Find the two numbers.	Explanation
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Numerical Solutions

1.

a) $x = -\frac{23}{8}_\#$	b) $x = -7_\#$	c) $x = 5_\#$
d) $t = 6_\#$	e) $x = 12_\#$	f) $h = -6_\#$

2.

a) $u = \frac{4}{3}$	b) $n = 7_\#$	c) $x = 8$ or $24_\#$
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3. $C = 37^\circ C_\#$ 4. $w = 4cm_\#$

5. The numbers are 9 and 10.