**Algebra homework –** Stick the worksheet into your book neatly and answer these questions in your book.

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| **Literacy**You should know the spelling and understand the meaning of these wordsSolve, NumeratorDenominator, SimplifyFactorise, ExpandVariable, CoefficientExpression, Formula | **Research**Research at least five careers where you would need to use equations (excluding teaching!) and explain why equations would be important. | **Memory and reminder**Letters in algebraic expressions should be expressed in alphabetical order, unless there is a negative e.g. we write “2a + 3h + r” or “y – 3x”.Where there is a coefficient of 1, there is no need to write the “1” – e.g. we write “y” and not “1y”.Pythagoras theorem – for right angle trianglesa2 + b2 = h2ahb |
| **Skills Practice**Work out the value of these expressions1. Simplify by collecting like terms:
2. 5p – 2p b) 7y – 9y c) 8t + 3i – 6t –I d)8h – (3h + 3k)
3. Simplify the following expressions:
4. 3ab x 2b b) 5b2y x 7b2y c) 10h2k2 ÷ 5hk d) 4r2 ÷ h
5. Expand:
6. 3(x + 5) b) 4(5x – 2) c) -3(7+5y) d) -8(5x – 6) e) 9x(3x + 4)
7. Expand and simplify
8. 3(x + 5) - 9 b) 4(5x – 2) + 11x – 5 c) -3(7 + 5y) + 9y - 10

d) -8(5x – 6) + 24 e) 9x(3x + 4) + 5x2 -7x | **Challenge** **and** **Stretch**How much effort did you put into your homework? Give yourself a mark out of 10 for effort. / 101. The number x is an integer.
2. Write in algebraic terms, the next two integers greater than x.
3. Write an expression for the total, T when you add x to the next two integers.
4. PROVE that T is always a multiple of 3.
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