

\* Work Period \* Complete 1 of 2 Tasks. Build Toolkit #3 OR Complete Knowledgehook \*

Complete Toolkit #3, "Unit 3 - Toolkit Assignment - Polynomials: Factoring and Expanding."

Note<sub>1</sub>: This is the most compact of the 6 toolkit assignments in MPM2D.

Note<sub>2</sub>: Toolkit marked  $\frac{\quad}{17}$ .

→ OR ←  
→ ←

Complete Knowledgehook, "Factoring and Expanding Evaluation"  
Class Code: art3525

Note<sub>3</sub>: Knowledgehook marked  $\frac{\quad}{17}$ .

**Unit 3 – Toolkit Assignment – Polynomials: Factoring & Expanding****Toolkit aka Smartsheet design. [17 marks for your fully solved and answered examples]**

You should know and apply the following:

- Binomial products using the distributive property or FOIL.  
i.e.  $(a + b)(c + d) = ac + ad + bc + bd$  [2 examples with solutions marks]
- “Square, Double the product of the two terms, Square” pattern as a unique efficient binomial product.  
i.e.  $(a \pm b)^2 = a^2 \pm 2ab + b^2$  [2 examples with solutions marks]
- Unique binomial product of sum and difference binomials aka “First and Last” pattern.  
 $(a + b)(a - b) = a^2 - b^2$  [2 examples with solutions marks]
- Common factor first  
Ex.  $2x^2 - 18 = 2(x^2 - 9)$  [3 examples with the solutions for 3 marks]
- Group factoring. [2 examples with the solutions for 2 marks]
- Sum and product trinomial factoring.  
i.e.  $ax^2 + bx + c$ , if  $a = 1$  [2 examples with the solutions for 2 marks]
- Tricky trinomial factoring using either the decomposition process or the guess and check process.  
i.e.  $ax^2 + bx + c$ , if  $a \neq 1$  [2 examples with the solutions for 2 marks]
- Factoring a difference of two squares.  
i.e.  $(a)^2 - (b)^2 = (a + b)(a - b)$  [2 examples with the solutions for 2 marks]