

**Chapter 3 – Problem Solving**

- CIRCLE your Final Answers -

1) Expand:  $7xy(2x^3 - 4xy + 3y)$

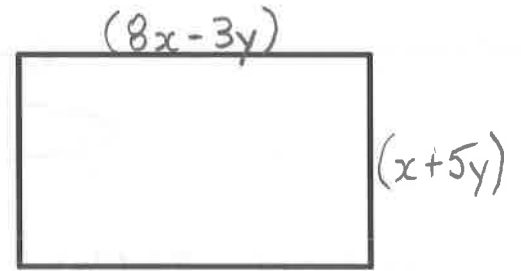
2) Expand and Simplify:  $(4x - 3)^2$

3) Expand and Simplify:  $(4d - 1)(7d^2 + 16d - 4)$

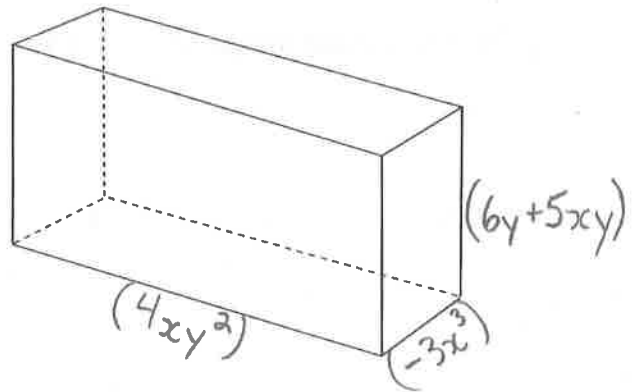
4) Expand and Simplify:  $(4p - 7q)(4p + 7q)$

- 5) What is the area of a rectangle with a **length** of  $(8x - 3y)$  and a **width** of  $(x + 5y)$

(Area written as a polynomial is *SIMPLEST* form)



- 6) What is the volume of a rectangular prism with a **length** of  $(4xy^2)$ , a **width** of  $(-3x^3)$ , and **height** of  $(6y + 5xy)$  (Volume written as a polynomial is *SIMPLEST* form)



- 7) Factor:  $5x^2 - 80y^2$

- 8) Factor:  $-x^3 - 4x^2 + 21x$

9) Factor:  $3x^2 + 36 + 24x$

10) Factor:  $8x^2 - 20x - 12$

11) Factor:  $18x^2 - 24xy + 8y^2$

12) Factor:  $2w^4 - 32$

13) Factor:  $15x^3y^4 - 25x^2y^5 + 50x^4y^7$

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**Turn over for SUPER CHALLENGE QUESTIONS!**

## SUPER CHALLENGE QUESTIONS

14) Factor **COMPLETELY!**

$$21x^4 - 56x^2 + 35$$

15) Factor **COMPLETELY!**

$$5y^4 - 65y^2 + 180$$