

b) $(4b + 3)(2b^2 + 4b + 3)$
 $= 4b(\underline{\hspace{2cm}}) + 3(\underline{\hspace{2cm}})$
 $= 4b(\underline{\hspace{1cm}}) + 4b(\underline{\hspace{1cm}}) + 4b(\underline{\hspace{1cm}}) + 3(\underline{\hspace{1cm}}) + 3(\underline{\hspace{1cm}}) + 3(\underline{\hspace{1cm}})$
 $= \underline{\hspace{1cm}}b^3 + \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b + \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b + \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}}b^3 + \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b + \underline{\hspace{1cm}}b + \underline{\hspace{1cm}}$
 $= \underline{\hspace{2cm}}$

2. Expand, then simplify. Verify for parts a and b.

a) $(2n)(-2n^2 + 4n - 5) = 2n(\underline{\hspace{1cm}}) + 2n(\underline{\hspace{1cm}}) + 2n(\underline{\hspace{1cm}})$
 $= \underline{\hspace{2cm}}$

Verify. Substitute $n = 2$.

Left side

$(2n)(-2n^2 + 4n - 5)$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$

Right side

$\underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$

The numbers match, so the product is likely correct.

b) $(4b - 5)(b^2 - 7b + 8)$
 $= 4b(\underline{\hspace{2cm}}) - 5(\underline{\hspace{2cm}})$
 $= 4b(\underline{\hspace{1cm}}) + 4b(\underline{\hspace{1cm}}) + 4b(\underline{\hspace{1cm}}) - 5(\underline{\hspace{1cm}}) - 5(\underline{\hspace{1cm}}) - 5(\underline{\hspace{1cm}})$
 $= \underline{\hspace{1cm}}b^3 - \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b - \underline{\hspace{1cm}}b^2 + \underline{\hspace{1cm}}b - \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} - \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} - \underline{\hspace{1cm}}$
 $= \underline{\hspace{2cm}}$

Verify. Substitute $b = 2$.

Left side

$(4b - 5)(b^2 - 7b + 8)$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$

Right side

$\underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}}$

The numbers match, so the product is likely correct.

c) $(-4y + 3)(4y^2 + 3y - 7)$

$= \underline{\hspace{2cm}}$