

I. Add or subtract the following polynomials. Write your answers in standard form.

<p>1. $(2a^2 - 4a + 3) + (6a^2 + 4a - 3)$ $8a^2$</p>	<p>2. $(2x^3 + 3x^2 + x + 2) - (x^2 - x + 4)$ $2x^3 + 3x^2 + x + 2 - x^2 + x - 4$ $2x^3 + 2x^2 + 2x - 2$</p>
<p>3. $(9x - 2) + (2x^4 - 5x + 1)$ $2x^4 + 4x - 1$</p>	<p>4. $(7m^2 - 3m + 8) - (-3m^2 - 6m + 5)$ $7m^2 - 3m + 8 + 3m^2 + 6m - 5$ $10m^2 + 3m + 3$</p>
<p>5. $(x + 3) - (x^2 - 4x + 9)$ $x + 3 - x^2 + 4x - 9$ $-x^2 + 5x - 6$</p>	<p>6. $(x^2 + 3x - 1) - (2x^2 - x + 3)$ $x^2 + 3x - 1 - 2x^2 + x - 3$ $-x^2 + 4x - 4$</p>
<p>7. $(x^2 + 1) - (x^2 - 1) + (x^2 + 1)$ $x^2 + 1 - x^2 + 1 + x^2 + 1$ $x^2 + 3$</p>	<p>8. $(2x^2 + 1) + (x^2 - 2x + 1) - (2x^2 + 8)$ $2x^2 + 1 + x^2 - 2x + 1 - 2x^2 - 8$ $x^2 - 2x - 6$</p>
<p>9. $(3x + 5) - (x^2 - 1) - (2x^2 + x)$ $3x + 5 - x^2 + 1 - 2x^2 - x$ $-3x^2 + 2x + 6$</p>	<p>10. $(2x - 3) - (5 - 4x) - (6x + 1)$ $2x - 3 - 5 + 4x - 6x - 1$ -9</p>

II. Multiply or Divide the following. Write your answers in standard form.

<p>11. $-3x(5x^2 - 4x)$</p> $\boxed{-15x^3 + 12x^2}$	<p>12. $2x(x^3 + 5x^2 + 2 + 3x)$</p> $2x^4 + 10x^3 + 4x + 6x^2$ $\boxed{2x^4 + 10x^3 + 6x^2 + 4x}$	<p>13. $x^2(x^4 + 2x - 4)$</p> $\boxed{x^6 + 2x^3 - 4x^2}$
<p>14. $(x^2 + 4)(x - 3)$</p> $\boxed{x^3 - 3x^2 + 4x - 12}$	<p>15. $(c + 6)(c - 6)$</p> $\boxed{c^2 - 36}$	<p>16. $(a + 3)(a + 5)$</p> $a^2 + 5a + 3a + 15$ $\boxed{a^2 + 8a + 15}$
<p>17. $(x - 9)(x - 9)$</p> $x^2 - 9x - 9x + 81$ $\boxed{x^2 - 18x + 81}$	<p>18. $(2x^2 + 5x - 4) \div (x + 3)$</p> $\begin{array}{r} -3 \overline{) 2 \ 5 \ -4} \\ \underline{\downarrow -6 \ 3} \\ 2 \ -1 \ -1 \end{array}$ $\boxed{2x - 1 - \frac{1}{x+3}}$	<p>19. $(x^2 - 1) \div (x + 2)$</p> $\begin{array}{r} -2 \overline{) 1 \ 0 \ -1} \\ \underline{\downarrow -2 \ 4} \\ 1 \ -2 \ 3 \end{array}$ $\boxed{x - 2 + \frac{3}{x+2}}$
<p>20) $(x^2 + 7x - 11) \div (2x + 1)$</p> $\begin{array}{r} -\frac{1}{2} \overline{) 1 \ 7 \ -11} \\ \underline{\downarrow -\frac{1}{2} \ -3.25} \\ 1 \ 6.5 \ -14.25 \end{array}$ $x + 6.5 - \frac{14.25}{2x+1}$	<p>21. $(\frac{15x^2 - 25x}{5x}) \div 5x$</p> $\boxed{3x - 5}$	<p>22. $(4x^2 + 30x + 7) \div (x + 7)$</p> $\begin{array}{r} -7 \overline{) 4 \ 30 \ 7} \\ \underline{\downarrow -28 \ -14} \\ 4 \ 2 \ -7 \end{array}$ $\boxed{4x + 2 - \frac{7}{x+7}}$

20)

$$\frac{x}{2} + 3.25 - \frac{14.25}{2x+1}$$

$$2x+1 \overline{) x^2 + 7x - 11}$$

$$\begin{array}{r} -x^2 + \frac{x}{2} \\ \hline 6.5x - 11 \\ -6.5x + 3.25 \\ \hline -14.25 \end{array}$$

$$\frac{x^2}{2x} = \frac{x}{2}$$

$$\frac{6.5x}{2x} = 3.25$$