

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

<p>11. $-3x(5x^2 - 4x)$</p> <p>$-15x^3 + 12x^2$</p>	<p>12. $2x(x^3 + 5x^2 + 2 + 3x)$</p> <p>$2x^4 + 10x^3 + 4x + 6x^2$</p> <p>$2x^4 + 10x^3 + 6x^2 + 4x$</p>	<p>13. $x^2(x^4 + 2x - 4)$</p> <p>$x^6 + 2x^3 - 4x^2$</p>
<p>14. $(x^2 + 4)(x - 3)$</p> <p>$x^3 - 3x^2 + 4x - 12$</p>	<p>15. $(c + 6)(c - 6)$</p> <p>$c^2 - 36$</p>	<p>16. $(a + 3)(a + 5)$</p> <p>$a^2 + 5a + 3a + 15$</p> <p>$a^2 + 8a + 15$</p>
<p>17. $(x - 9)^2$</p> <p>$(x - 9)(x - 9)$</p> <p>$x^2 - 18x + 81$</p>	<p>Synthetic</p> <p>18. $(2x^2 + 5x - 4) \div (x + 3)$</p> <p>$-3 \overline{) 2 \quad 5 \quad -4}$ $\quad + \downarrow -6 \quad 3$ $\quad \quad \quad \underline{2 \quad -1 \quad -1}$</p> <p>$2x - 1 - \frac{1}{x} + 3$</p>	<p>long division</p> <p>19. $(x^2 - 1) \div (x + 2)$</p> <p>$\frac{3}{x + 2} \overline{) x^2 - 1}$ $\quad \underline{x^2 + 2x}$ $\quad \quad \quad -x^2 + 2x - 1$ $\quad \quad \quad \underline{-2x - 1}$ $\quad \quad \quad \quad \underline{+2x + 4}$ $\quad \quad \quad \quad \quad \quad \quad 3$</p>
<p>20. $(x^2 + 7x - 11) \div (2x + 1)$</p> <p>long division only!</p>	<p>21. $(15x^2 - 25x) \div 5x$</p> <p>$\frac{15x^2}{5x} - \frac{25x}{5x}$</p> <p>$3x - 5$</p>	<p>22. $(4x^2 + 30x + 7) \div (x + 7)$ See below</p>

$\frac{x^2}{2x} = \frac{x}{2} = \frac{1}{2}x$
 $\frac{6.5x}{2x} = 3.25$

$\frac{1}{2}x + 3.25 - \frac{14.25}{2x+1}$
 $2x+1 \overline{) x^2 + 7x - 11}$
 $\quad \underline{-x^2 + 0.5x}$
 $\quad \quad \quad 6.5x - 11$
 $\quad \quad \quad \underline{-6.5x + 3.25}$
 $\quad \quad \quad \quad \quad -14.25$

20

$0.5x + 3.25 - \frac{14.25}{2x-1}$

22

$x+7 \overline{) 4x^2 + 30x + 7}$
 $\quad \underline{-4x^2 + 28x}$
 $\quad \quad \quad 2x + 7$
 $\quad \quad \quad \underline{-2x + 14}$
 $\quad \quad \quad \quad \quad -7$

$4x + 2 - \frac{7}{x+7}$