Algebra II

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2)	$-\frac{8}{15}$	8)	$\frac{1}{2}$	16)	$\frac{3x-2}{3x+2}$
3)	x	9)	$\frac{r}{3}$	18)	$\frac{1}{(x^2+y^2)(x+y)}$
4)	$\frac{-2}{3z}$	10)	$\frac{x^2y^2}{2}$	20)	x
5)	$12t$	11)	$\frac{x}{(x-1)(x-2)}$	21)	$\frac{x+y}{x+3y}$
6)	$\frac{4}{5x^2}$	12)	$\frac{t-1}{t+1}$	22)	1
7)	$3y$	14)	$x(x+1)$ or x^2+x	24)	1

2) $\frac{-26}{25} \div \frac{39}{20}$

$\frac{-\cancel{26}^{2}}{\cancel{25}^{5}} \cdot \frac{\cancel{20}^{4}}{\cancel{39}^{3}}$

$-\frac{8}{15}$

3) $\frac{\cancel{5}x^3}{\cancel{+3}} \cdot \frac{\cancel{+6}^{3}}{\cancel{10}x^2}$

$\frac{x^3}{x^2} = x$

9) $\frac{4rs^2}{45} \div \frac{8s}{27r} \div \frac{9rs}{10}$

$\frac{\cancel{4}rs^2}{\cancel{45}} \cdot \frac{\cancel{27}^{3}r}{\cancel{8}s} \cdot \frac{\cancel{10}^{2}}{9rs}$

$\frac{6r^{\cancel{2}}s^{\cancel{2}}}{\cancel{18}r\cancel{s^2}} = \frac{r}{3}$

14) $\frac{x^2}{x-1} \cdot \frac{x+1}{x+2} \div \frac{x}{(x-1)(x+2)}$

$\frac{x^{\cancel{2}}}{\cancel{(x-1)}} \cdot \frac{(x+1)}{\cancel{(x+2)}} \cdot \frac{\cancel{(x-1)}\cancel{(x+2)}}{x}$

$x(x+1)$

21) $$\frac{3x^2+xy-2y^2}{3x^2-xy-2y^2} \div \frac{3x^2+7xy-6y^2}{3x^2-2xy-y^2} \div \frac{3x+y}{3x+2y}$$

$$\frac{3x^2+xy-2y^2}{3x^2-xy-2y^2} \cdot \frac{3x^2-2xy-y^2}{3x^2+7xy-6y^2} \cdot \frac{3x+2y}{3x+y}$$

$$\frac{(3x-2y)(x+y)}{(3x+2y)(x-y)} \frac{(3x+y)(x-y)}{(3x-2y)(x+3y)} \cdot \frac{(3x+2y)}{(3x+y)}$$

$$\frac{x+y}{x+3y}$$

22) $$\frac{r^2+4rs+3s^2}{r^2+5rs+6s^2}\cdot\frac{(r+2s)^{-1}}{1}\div\frac{r+s}{r^2+4rs+4s^2}$$

$$\frac{(r+3s)(r+1s)}{(r+3s)(r+2s)}\cdot\frac{1}{r+2s}\cdot\frac{r^2+4rs+4s^2}{r+s}$$

$$\frac{r^2+4rs+4s^2}{(r+2s)(r+2s)}$$

$$\frac{(r+2s)(r+2s)}{(r+2s)(r+2s)}=1$$

24) $(u^4+u^2v^2+v^4) \div (u^6-v^6)(u^2-v^2)$

$$\frac{(u^4+u^2v^2+v^4)(u^2-v^2)}{u^6-v^6}$$

$(u^2)^3 \quad (v^2)^3$

$a^3-b^3=(a-b)(a^2+ab+b^2)$

$$\frac{(u^4+u^2v^2+v^4)(u^2-v^2)}{(u^2-v^2)(u^4+u^2v^2+v^4)}$$

$$1$$