

Simplify - 6

Show that:

(1) $\frac{x+2xy}{3x^2} \div \frac{2y+1}{6x} = 2$	(2) $\frac{9-x^2}{x^4+6x^3} \div \frac{x^3-2x^2-3x}{x^2+7x+6} = -\frac{3+x}{x^4}$	(3) $\frac{x+y}{\frac{1}{x} + \frac{1}{y}} = xy$
(4) $\frac{x+y^2}{x^2} + \frac{x-1}{x} - 1 = \frac{y^2}{x^2}$	(5) $\frac{1}{x+2} + \frac{1}{x-2} - \frac{x}{x^2-4} = \frac{x}{x^2-4}$	(6) $\frac{2+\frac{1}{x}}{2x^2+x} = \frac{1}{x^2}$
(7) $\frac{\left(\frac{x-1}{x}\right)}{\left(1+\frac{1}{x}\right)} = x-1$	(8) $\frac{\left(\frac{1}{x^2}-4\right)}{\left(\frac{1}{x}-2\right)} = \frac{1+2x}{x}$	(9) $\frac{\left(\frac{1}{x}+1\right)}{\left(\frac{1}{x}-1\right)} = \frac{1+x}{1-x}$
(10) $\frac{6x^2-x-2}{\left(\frac{3x-2}{2x+1}\right)} = (2x+1)^2$	(11) $\frac{\left(\frac{x^2y+xy^2}{x-y}\right)}{x+y} = \frac{xy}{x-y}$	(12) $\frac{\left(x+\frac{2x}{x-2}\right)}{\left(1+\frac{1}{x^2-4}\right)} = x+2$
(13) $\frac{\left(\frac{x+1}{x-1} - \frac{x-1}{x+1}\right)}{\left(\frac{1}{x+1} + \frac{1}{x-1}\right)} = 2$	(14) $\frac{x}{1 - \left(\frac{1}{1+\frac{x}{y}}\right)} = x+y$	(15) $2 - \frac{2}{1 - \left(\frac{2}{2-\frac{2}{x^2}}\right)} = 2x^2$

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