Mastery Algebra 1 Sample Mastery Quiz 11-3 Name: KEY

Per: ____ ☐

11-3 Dividing Rational Expressions

Divide and simplify:

1. $\frac{8a^2b^3}{6ab^4} \div \frac{6ab}{9} = \frac{8a^2b^3}{6ab^4} \cdot \frac{9}{6ab}$

$= \frac{2\cdot 2\cdot 2\cdot a\cdot b\cdot b\cdot b\cdot 3\cdot 3}{2\cdot 3\cdot a\cdot b\cdot b\cdot b\cdot b\cdot 2\cdot 3\cdot a\cdot b}$

$= \boxed{\frac{2}{b^2}}$

2. $\frac{3t+12}{5t} \div \frac{t+4}{10t} = \frac{3t+12}{5t} \cdot \frac{10t}{t+4}$

$= \frac{3(t+4)}{5\cdot t} \cdot \frac{2\cdot 5\cdot t}{(t+4)}$

$= \boxed{6}$

3. $\frac{k^2+5k-6}{8k^3} \div \frac{24k^2}{k^2+6k}$

$= \frac{k^2+5k-6}{8k^3} \cdot \frac{24k^2}{k^2+6k}$

$= \frac{(k+6)(k-1)}{2\cdot 2\cdot 2\cdot k\cdot k\cdot k} \cdot \frac{2\cdot 2\cdot 2\cdot 3\cdot k\cdot k}{k(k+6)}$

$= \boxed{\frac{3(k-1)}{k^2}}$

4. $\frac{x^2+10x-11}{x^2+12x+11} \div (x-1)$

$= \frac{(x+11)(x-1)}{(x+11)(x+1)} \cdot \frac{1}{(x-1)}$

$= \boxed{\frac{1}{x+1}}$

5. $\frac{2n^2-5n-3}{4n^2-12n-7} \div \frac{4n+5}{2n-7} = \frac{(2n+1)(n-3)}{(2n-7)(2n+1)} \cdot \frac{(2n-7)}{(4n+5)}$

	2n	1
n	$2n^2$	$1n$
−3	$-6n$	-3

(−6, 1, −5)

$= \boxed{\frac{n-3}{4n+5}}$

	2n	1
2n	$4n^2$	$2n$
−7	$-14n$	-7

(−28, 2, −12)