

Mathematics 101 Worksheet 5.1,5.2

Problems

1) For the function $h(x) = \frac{2x+6}{x^2-x-12}$

- Write the domain in set-builder notation.
- Write the domain in interval notation.
- Evaluate $h(0)$, $h(-1)$, and $h(4)$ if possible.
- Simplify the function.

2) Write the domain of $k(x) = \frac{5x-3}{7}$ in interval notation.

3)Simplify:

a) $\frac{12m^3n^7}{18mn^8}$

b) $\frac{9x^2-9}{3x^2+2x-5}$

c) $\frac{2x-5}{25-4x^2} \cdot (2x^2 - x - 15)$

d) $\frac{x-5y}{x^2+xy} \cdot \frac{y^2-x^2}{10y-2x}$

e) $\frac{6x^2y^2}{x-2} \div \frac{3xy^2}{(x-2)^2}$

f) $\frac{8t^3+27}{9-4t^2} \div \frac{4t^2-6t+9}{2t^2-t-3}$