

Math-1003b Homework #3

Reading

- Review sections 7.1 and 7.4.
- Sections 7.5, 7.6, and 7.7.

Problems

1). Simplify:

$$\frac{x^2 - \frac{2}{3}x - \frac{5}{4}}{9x^4 - 4x^2} \cdot (2x + 5)^2 \div \frac{(3x - 1)^3}{3x - 2}$$

2). Simplify:

$$\frac{\frac{5}{w^2-25} - \frac{3}{w+5}}{\frac{4}{w-5}}$$

3). Solve for a :

$$\frac{6}{5a + 10} - \frac{1}{a - 5} = \frac{4}{a^2 - 3a - 10}$$

4). A building has a window that is higher than you can reach and you have a short measuring tape that doesn't reach all of the way (i.e., you can't just measure from the window to the ground). You do have a 20ft ladder. So, you mark 5ft up the ladder and then lean it against the building so that the top of the ladder is at the bottom of the window. You then measure from your 5ft mark to the ground - it measures 4ft. How high up is the window? (Hint: draw a picture, mark the distances, and look for triangles!)