

Math 1210-1 Exam 0

Name: _____

ST# _____

1. Find

(a) $\frac{2}{3} = \frac{1}{4}$

(b) $\frac{1 + \frac{1}{3}}{\frac{1}{4} + \frac{1}{3}}$

2. Express as a rational number

(a) $32^{-4/5}$

(b) $\frac{25^{3/2}}{64^{-5/6}}$

3. Expand

(a) $2x(x^2 + 1)$

(b) $(x + y)^2$

4. Factor

(a) $x^2 - 7x + 12$

(b) $2x^2 + 4x - 2x^3$

5. Perform the indicated operations and simplify

(a) $\frac{x^3 - 8}{x^2 - 4} \div \frac{x^2 + 2x + 4}{x^3 + 8}$

(b) $\frac{3}{x-1} - \frac{2}{x} + \frac{x+3}{x^2-1}$

6. Sketch the graphs of the following:

(a) $y = 3 - x$

(b) $y = \sin 2x$

(c) $y = \frac{x+1}{x+2}$

(d) $x^2 + (y+2)^2 = 4$

7. Solve the equations:

(a) $2x^2 - x - 3 = 0$

(b) $2x^2 + 6x + 3 = 0$

(c) $2x^3 - x^2 - 2x + 1 = 0$

8. Given a right triangle ABC , where the right angle is angle B , the length of AB is 3, the length of BC is 2, and angle A is labeled as x , what are:

(a) the length of AC ?

(b) $\cos x$?

(c) $\sin x$?

(d) $\tan x$?

9. Given an acute triangle DEF , where angle D is 45 degrees, the length of DE is 15, and the length of DF is 6, what is the length of EF ?