

MATH 141 REVIEW WORKSHEET

Show all work for full credit.

NOTE: You should be able to complete this worksheet without using a calculator.

1. Factor completely.

a. $6x^2 + 23x - 18$

b. $12x^2y - 22xy - 70y$

c. $9x^3 + 72$

d. $x^3 + 5x^2 - 4x - 20$

e. $3(x + 1)^3(x - 2)^2 + 6(x + 1)^2(x - 2)^3$

2

2. Evaluate each of the following. Give exact answers.

a. $\tan\left(\frac{\pi}{6}\right)$

b. $\cos\left(\frac{5\pi}{6}\right)$

c. $\sin\left(-\frac{\pi}{4}\right)$

d. $\tan\left(\frac{\pi}{3}\right)$

e. $\cos\left(\frac{2\pi}{3}\right)$

f. $\sin\left(\frac{3\pi}{2}\right)$

g. $\sec\left(\frac{\pi}{3}\right)$

3. Evaluate the following. Express answers reduced to lowest terms.

a. $\frac{3}{10} + \frac{7}{15} - \frac{9}{25}$

b. $\frac{2}{3} + \frac{3}{5} - \frac{7}{12}$

4. Simplify each expression. Write answers without negative exponents.

a. $16^{-3/2}$

b. $\left(\frac{6m^{-5}n^2}{3m^2n^{-6}}\right)^2$