

Directions: Work in a neat and well-organized manner. Show work on all problems. Circle answers. All work must be on this exam. Anyone caught using a cell phone or any calculator other than a TI503SV will earn a "0".

This is a SAMPLE TEST. The actual test may not have these exact type of problems, but this is a good set of practice. To adequately prepare, work through all of the problems in the review packet. If you use a calculator other than a TI503-SV when you practice, you will likely not do well on the test on Friday.

This weekend, please check your SIU e-mail address as your instructor will be e-mailing students who did not pass with a suggested path for success.

1) Simplify and leave your final answer with positive exponents only.

- a) $\frac{(-3x)^{-2}y^7}{x^5y^4}$
b) $-2^2 + 3^{-1}$
c) $(5a^2b)(-10a^3b^2)$

2) Factor completely.

- a) $12x^3 + 8x^2 + 3x + 2$
b) $10x^2 - 19x + 6$
c) $9x^2 - 16$
d) $2x^4 - 2x^3 - 12x^2$

3) Evaluate/Simplify. Answers should be in simplified fraction form where applicable, not decimals:

- a) $3\sqrt{50}$
b) $(15 \div (-5) - (-2)) \times (-3)^3$
c) $-x^2 + \frac{xy}{2}$ when $x = 4$ and $y = 3$

4) Solve:

- a) $11 - 5x = 2x + 8$
b) $3(x - 2) + 8 = 6x$

5) Complete indicated operation and simplify:

- a) $(-8q^2 - 7q - 1) - (-5q^2 - 8q + 7)$
b) $(-2x - 4)(-8x + 4)$
c) $(4 - x)^2$

6) Complete indicated operation and simplify. Your answer should be a reduced improper fraction. No decimals!!

- a) $\frac{6}{7} - \frac{5}{21}$ b. $\frac{5}{30} \div \frac{3}{16}$ c. $12 * \frac{-2}{3}$

ANSWERS TO SAMPLE TEST:

1) a) $\frac{y^3}{9x^7}$ b) $\frac{-11}{3}$ c) $-50a^5b^3$

2) a) $(3x + 2)(4x^2 + 1)$ b) $(5x - 2)(2x - 3)$ c) $(3x - 4)(3x + 4)$ d) $2x^2(x - 3)(x + 2)$

3) a) $15\sqrt{2}$ b) 27 c) -10

4) a) $\frac{3}{7}$ b) $\frac{2}{3}$

5) a) $-3q^2 + q - 8$ b) $16x^2 + 24x - 16$ c) $16 - 8x + x^2$

6) a) $\frac{13}{21}$ b) $\frac{8}{9}$ c) -8