

How do I math again...?

1. Many students run into trouble when it comes to fraction rules. They aren't hard to remember, but it is easy to slip up, especially while writing a test! Practice will help you get them down. Now, try simplifying these expressions involving fractions!

a) $\frac{2}{5} + \frac{1}{8}$

b) $6 - \frac{10}{3}$

c) $\frac{1 + 5 + 10}{2}$

d) $\frac{2}{1 + 5 + 10}$

e) $\left(\frac{4}{3}\right) \left(\frac{7}{10}\right)$

f) $\frac{\frac{1}{2}}{\frac{3}{4} - \frac{2}{3}}$

2. Exponents appear very commonly in all first-year math courses, so it is important to feel comfortable with how they work. Try your best to tackle the following:

a) 3^4

b) -4^2

c) $(-4)^2$

d) 3^{-3}

e) 10^0

f) $9^{1/2}$

g) $16^{5/2}$

h) $8^{-2/3}$

i) $(2^2)(2^3)$

j) $(2^2)^3$

k) $((3)(4))^2 + \left(\frac{3}{4}\right)^2$

l) $(3 + 4)^2$

3. We were all told in high school that “Factoring is Fun!” It’s a really important tool, especially for solving polynomial equations. Try factoring the following expressions as fully as possible.

a) $2x^2 + 8x$

b) $a^3 - 4a^2$

c) $b^2 + 8b + 12$

d) $4y^2 - 25$

e) $4x^2 + 12x + 9$

f) $6x^2 - 7x - 3$

4. Solving equations is an essential skill, but it usually boils down to “What you do to one side, you do to the other!” Apply inverse operations, respecting math rules, until you arrive at an answer. Now, try solving the following equations for the variables appearing in them!

a) $\frac{1}{2}k - 5 = \frac{1}{3}$

b) $10(2 - s) = 3(1 + 10s)$

c) $\frac{5}{t + 1} = \frac{3}{t - 2}$

d) $z^2 = 64$

e) $\sqrt{a + 1} = 8$

f) $2^x = 10$