

22M:13
Spring 2008
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Are you prepared for 22M:13?

The “official” prerequisite for this course is 22M:2 or equivalent. Unofficially, I believe that if you have *solid mastery* of material from 22M:1, then you have enough background for M13. But if you find the following problems difficult, then I believe you will have trouble with M13 and should consider taking M2 first. The course 22M:13 is a Gen.Ed. level course, not “advanced math”, but also not intended as a “remedial” course.

Problem 1. Find the slope of the line with equation $2x + 3y = 1$

Problem 2. Solve for B : $A = 5(\frac{1}{2} + B)$

Problem 3. Solve (using the quadratic formula) $x^2 + 2x - 5 = 0$

Problem 4. Solve the system

$$\begin{aligned}x + 2y &= 3 \\ 2x - y &= 5\end{aligned}$$

Problem 5. Subtract and leave as a single fraction in lowest terms $\frac{w}{w-5} - \frac{1}{3}$

Problem 6. Factor as completely as possible $x^5 - x^3$

Problem 7. Write as a simple fraction $\frac{1/7}{1/5}$

Problem 8. Express as a single power of m $\frac{m^2m^3}{m^{10}}$

Problem 9. Multiply and combine like terms $(x^2 + 1)(x^6 - x^3 + 1)$

Problem 10. Graph $y = x^2 + 3$
(Don't just plot some dots; you should know what this graph looks like.)

Problem 11. Fancy coffee sells for \$12 per pound. Regular coffee sells for \$9.50 per pound. If you make a mixture consisting of 30% fancy coffee and 70% regular coffee, what would be the price?