

Law & Finance (LLM) Maths Practise Tests (no calculator allowed)

1. Solve the following (in-)equalities. Use fractions in your answer and simplify these as much as possible.

a) $\frac{6}{8}x + 4 \leq 2(x - \frac{3}{4})$

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

c) $|9x - 2| = 4$

2. We want to write $f(x) = -2((-2)x)^2 + 6(x + 2)^2 + 5$ in the standard quadratic form. Which of the following answers is correct?

a) $f(x) = 14x^2 + 24x + 29$

b) $f(x) = -2x^2 + 24x + 29$

c) $f(x) = 44x^2 + 144x + 149$

d) $f(x) = 149 + 144x + 44x^2$

e) $f(x) = 29 + 24x - 2x^2$

f) None of the answers above.

3. We have a system of 2 equations. Solve for x and y .

$$\begin{cases} -4y + 3x = -15 \\ -x + 8y = 45 \end{cases}$$

4. Is the $\frac{\sqrt{48}}{28}$ rational or irrational? Give the fraction with the square root as small as possible.

5. Give the coordinates of the intersections with the x - and y -axis of the following function:

$$f(x) = x^2 + 4x - 5$$

6. Which points are on the graph $f(x) = x^2 + 6x - 18$.

a) (1,-11)

b) (1,11)

c) (-2,-26)

d) (2,26)

7. Solve the following equality:

$$30^{\frac{1}{3}x} = 900$$

8. Write as one fraction:

$$\frac{\frac{3}{2} + \frac{2}{7}}{\frac{1}{4}}$$