Mathematics Assessment

Grade 10 (MYP5)

AMADEUS
International School
VIENNA

Name _____ Date of birth: _____ Grade_____

Instructions: Try to answer at least one question per group **without** using a calculator. You have up to 30 minutes. If you are stuck with one group of problems move on to the next group. When you are finished with this test hand it back to the test administrator.

1. Simplify:

$\frac{\sqrt{35}}{\sqrt{5}}$ $-(-3)^3$ $a^4b^5 \times a^2b^2$

$\frac{5(x^2y)^2}{(5x^2)^2}$ $2^{x-3} = \frac{1}{32}$ $27^{-2/3}$

$x(2x+1) - 2x(1-x)$ $(3x+5)^2$ $(3x-2)(x^2+2x+7)$

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$\frac{1-3x}{4} - \frac{2x+1}{3}$ $\frac{1}{x} + \frac{4}{x-4}$

2. Use the distance formula to help classify triangle PQR given the points P(3, 2), Q(-1, 4) and R(-1, 0).

3. Solve this system of equations for x and y. 2x+y=7 3x - 2y = 1

4. Two lines have gradients $-3/5$ and a/6. Find a if:

a the lines are parallel b the lines are perpendicular.

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5. Fully factorise: $2x^2+17x+8$ $6x^2-24y^2$

Make "y" the subject of (rewrite equations in terms of y=):

a $5x-3y=8$ b $\frac{3}{y}=\frac{a}{b}$

Use the quadratic formula to solve for x: $3x^2+4x+5=0$