Subject: Mathematics 5   (MA33102)   **Grade** 12 SM/EM   **Instructor:** Ms. Chompoonooch

Name_____**class**_____ **No.**_____

7

If $\dfrac{x^{a^2}}{x^{b^2}} = x^{16}$, $x > 1$, and $a + b = 2$, what is the value

of $a - b$?

8

$$nA = 360$$

The measure A, in degrees, of an exterior angle of a regular polygon is related to the number of sides, n, of the polygon by the formula above. If the measure of an exterior angle of a regular polygon is greater than $50°$, what is the greatest number of sides it can have?

9

The graph of a line in the xy-plane has slope 2 and contains the point $(1, 8)$. The graph of a second line passes through the points $(1, 2)$ and $(2, 1)$. If the two lines intersect at the point (a, b), what is the value of $a + b$?

10

Which of the following equations has a graph in the xy-plane for which y is always greater than or equal to -1 ?

A) $y = |x| - 2$

B) $y = x^2 - 2$

C) $y = (x - 2)^2$

D) $y = x^3 - 2$

11

Which of the following complex numbers is

equivalent to $\dfrac{3 - 5i}{8 + 2i}$? (Note: $i = \sqrt{-1}$)

12

$$R = \dfrac{F}{N + F}$$

A website uses the formula above to calculate a seller's rating, R, based on the number of favorable reviews, F, and unfavorable reviews, N. Which of the following expresses the number of favorable reviews in terms of the other variables?

A) $F = \dfrac{RN}{R - 1}$

B) $F = \dfrac{RN}{1 - R}$

C) $F = \dfrac{N}{1 - R}$

D) $F = \dfrac{N}{R - 1}$