

Pre-AP Precalculus

CR 2 – SAT PREP 2

*** NO CALCULATOR***

Name: _____

Date: _____

1]

$$m = \frac{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N}{\left(1 + \frac{r}{1,200}\right)^N - 1} P$$

The formula above gives the monthly payment m needed to pay off a loan of P dollars at r percent annual interest over N months. Which of the following gives P in terms of m , r , and N ?

A) $P = \frac{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N}{\left(1 + \frac{r}{1,200}\right)^N - 1} m$

B) $P = \frac{\left(1 + \frac{r}{1,200}\right)^N - 1}{\left(\frac{r}{1,200}\right)\left(1 + \frac{r}{1,200}\right)^N} m$

C) $P = \left(\frac{r}{1,200}\right) m$

D) $P = \left(\frac{1,200}{r}\right) m$

2] If $\frac{a}{b} = 2$, what is the value of $\frac{4b}{a}$?

- A) 0
- B) 1
- C) 2
- D) 4

3]

$$b = 2.35 + 0.25x$$

$$c = 1.75 + 0.40x$$

In the equations above, b and c represent the price per pound, in dollars, of beef and chicken, respectively, x weeks after July 1 during last summer. What was the price per pound of beef when it was equal to the price per pound of chicken?

- A) \$2.60
- B) \$2.85
- C) \$2.95
- D) \$3.35

4]

$$g(x) = ax^2 + 24$$

For the function g defined above, a is a constant and $g(4) = 8$. What is the value of $g(-4)$?

- A) 8
- B) 0
- C) -1
- D) -8

- 5] If $x > 3$, which of the following is equivalent

to $\frac{1}{\frac{1}{x+2} + \frac{1}{x+3}}$?

A) $\frac{2x+5}{x^2+5x+6}$

B) $\frac{x^2+5x+6}{2x+5}$

C) $2x+5$

D) x^2+5x+6

- 6] If $3x - y = 12$, what is the value of $\frac{8^x}{2^y}$?

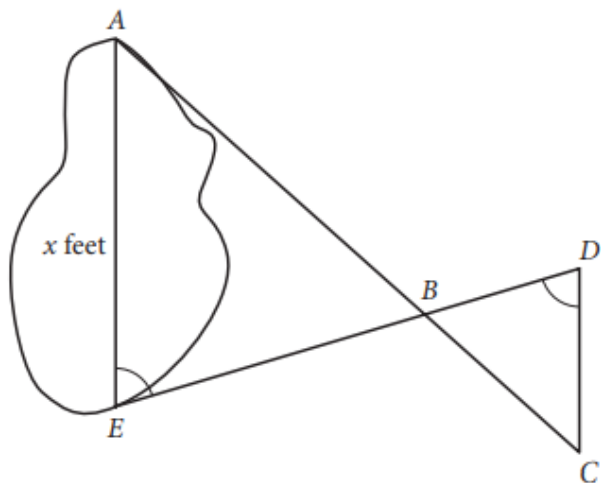
A) 2^{12}

B) 4^4

C) 8^2

- D) The value cannot be determined from the information given.
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7]



A summer camp counselor wants to find a length, x , in feet, across a lake as represented in the sketch above. The lengths represented by AB , EB , BD , and CD on the sketch were determined to be 1800 feet, 1400 feet, 700 feet, and 800 feet, respectively. Segments AC and DE intersect at B , and $\angle AEB$ and $\angle CDB$ have the same measure. What is the value of x ?

- 8] If $t > 0$ and $t^2 - 4 = 0$, what is the value of t ?
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- 9] In a right triangle, one angle measures x° , where $\sin x^\circ = \frac{4}{5}$. What is $\cos(90^\circ - x^\circ)$?
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- 10] If $a = 5\sqrt{2}$ and $2a = \sqrt{2x}$, what is the value of x ?