SAT Word Problems Practice Test Version 2 (NC=No calculator)

NC Question 1:

The boiling point of water at sea level is 212 degrees Fahrenheit (°F). For every increase of 1,000 feet above sea level, the boiling point of water drops approximately 1.59 °F. Which of the following equations gives the approximate boiling point B, in °F, at *h* feet above sea level?

A) B=212-1.59*h*

B) **B=212-(0.00159)*h* *(rate =1.59/1000)height + the starting point=212***

C) B=212*h*

D) B=1.59(212)-1,000*h*

NC Question 2:

$$p(t) = 3(2)^{(t/2)}$$

The number of microscopic organisms in a petri dish grows exponentially with time. The function P above models the number of organisms after growing for t days in the petri dish. Based on the function, which of the following statements is true?

A) The predicted number of organisms in the dish triples every two days.

B) The predicted number of organisms in the dish doubles every three days.

C) The predicted number of organisms in the dish triples every day.

D) The predicted number of organisms in the dish doubles every two day.

NC Question 3:

Ryan has 6000 yards of yarn. He wants to knit at least 2 scarves and at least 3 hats. Each scarf requires 300 yards of yarn, and each hat requires 120 yards of yarn. If s represents the number of scarves and *h* represents the number of hats, which of the following systems of inequalities represents this situation?

A) $s+h\leq 6000$
$s\geq 2$
$h\geq 3$

B) $2s+3h\leq 6000$
$s\geq 2$
$h\geq 3$

C) $2s+3h\leq 6000$
$s\geq 300$
$h\geq 120$

D) $300s+120h\leq 6000$

s≥2
h≥3

NC Question 4:

Tamara is ordering desktop computers for her company. The desktop computers cost $360 each, and tax is an additional 6% of the total cost of the computers. If she can spend no more than $19,100 on the desktop computers, including tax, what is the maximum number of computers that Tamara can purchase?

A) 57
B) 58
C) 54
D) 50

NC Question 5:

Zeina needs to hire at least 10 staff members for an upcoming project. The staff members will be made up of junior directors, who will be paid $260 per week, and senior directors, who will be paid $340 per week. Her budget for paying the staff members is no more than $8,500 per week. She must hire at least 4 junior directors and at least 2 senior director. Which of the following systems of inequalities represents the conditions described if x is the number of junior directors and y is the number if senior directors?

A) $260x + 340y \geq 8{,}500$
$x + y \leq 10$
$x \geq 4$
$y \geq 2$

B) $260x + 340y \leq 8{,}500$
$x + y \geq 10$
$x \geq 4$
$y \geq 2$

C) $260x + 340y \geq 8{,}500$
$x + y \geq 10$
$x \leq 4$
$y \leq 2$

D) $260x + 340y \leq 9{,}700$
$x + y \leq 10$
$x \leq 4$
$y \leq 2$

Calculator Allowed

Question 6: $p = 2000x$

$p = 300(2^x)$

A website administrator is considering using one of the two models above to predict the total number of purchases, P, made x weeks after the website's advertising campaign begins. How many more purchases are predicted by the linear model than by the exponential model 3 weeks after the advertising campaign begins?

A) 2,400

B) 3,600 (2000(3)-300(8))

C) 6,000

D) 8,400

Question 7:

A company that makes wildlife videos purchases camera equipment for $40,400. The equipment depreciates in value at a constant rate for 10 years, after which it is considered to have no monetary value. How much is the camera equipment worth 3 years after it is purchased?

y=mx+b

y=price x=years we have two points (0,40400) and (10,0)

m=40400/10 m=-4,040

y=-4040t+40400 t=3 -4,040(3)+40,400

y=$28,280

Question 8:

Ahmed received a 3.5% salary increase. His salary after the raise was $36,432. What was his salary before the raise?

A) 30,200

B) 35,300

C) 35,200 x+3.5%x=36432 1.035x=36432

D) 36,000

Question 9:

At a snack bar, each medium drink costs $1.85 and each large drink costs c more dollars than medium drink. If 5 medium drinks and 5 large drinks cost a total of 22.50, what is the value of c?

A) 0.85
B) 0.40
C) 0.80
D) 0.65

m=$1.85 given c=cost
L=1.85+c
5m+5L=22.50
5(1.85)+5(1.85+c)=22.50
c=0.8

Question 10:

Kate bought a bus pass that had an initial value of $80. For every bus ride Kate takes, $1.20, the cost of one bus ride, is subtracted from the value of the pass. What percent of the initial value of Kate's bus pass is the cost of one bus ride?

A) 1.5% B) 2% C) 15% D) 1.2%

1.20 out of $80 therefore 1.20/80=0.015 We are finding the percentage value.
0.015*100=1.5%