WITH Calculator

ENGLISH TO MATH

E **1** TRANSLATE 2

A musician has a new song available for downloading or streaming. The musician earns $0.09 each time the song is downloaded and $0.002 each time the song is streamed. Which of the following expressions represents the amount, in dollars, that the musician earns if the song is downloaded d times and streamed s times?

A) $0.002d + 0.09s$
B) $0.002d - 0.09s$
C) $0.09d + 0.002s$
D) $0.09d - 0.002s$

A. LABEL
.09D + .002S
B. P.O.E.

E **6** TRANSLATE 2

When 4 times the number x is added to 12, the result is 8. What number results when 2 times x is added to 7?

A) −1
B) 5
C) 8
D) 9

A. LABEL
$4x + 12 = 8$
B. SOLVE FOR X
$4x = -4$
$x = -1$
C. PLUG IN X
$2x + 7 =$
$2(-1) + 7 = 5$

E **6** TRANSLATE 5

An online bookstore sells novels and magazines. Each novel sells for $4, and each magazine sells for $1. If Sadie purchased a total of 11 novels and magazines that have a combined selling price of $20, how many novels did she purchase?

A) 2
B) 3
C) 4
D) 5

A. LABEL
$4N + 1M = 20$
$-\ N + M = 11$
B. SUBTRACT
$3N = 9$
$N = 3$

E **8** TRANSLATE 2

In a video game, each player starts the game with k points and loses 2 points each time a task is not completed. If a player who gains no additional points and fails to complete 100 tasks has a score of 200 points, what is the value of k?

A) 0
B) 150
C) 250
D) 400

A. LABEL
$K - 2N = SCORE$
B. PLUG IN
$K - 2(100) = 200$
C. SOLVE FOR K
$K = 400$

E **10** 6

Between 1497 and 1500, Amerigo Vespucci embarked on two voyages to the New World. According to Vespucci's letters, the first voyage lasted 43 days longer than the second voyage, and the two voyages combined lasted a total of 1,003 days. How many days did the second voyage last?

A) 460
B) 480
C) 520
D) 540

A. LABEL
A: $B + 43$ B: B $= 1003$
B. SOLVE FOR B
$2B + 43 = 1003$
$2B = 960$
$B = 480$

M **19** GET FAMILIAR! 1

A food truck sells salads for $6.50 each and drinks for $2.00 each. The food truck's revenue from selling a total of 209 salads and drinks in one day was $836.50. How many salads were sold that day?

A) 77
B) 93
C) 99
D) 105

A. LABEL
$6.50S + 2.00D = 836.50$
$S + D = 209$
B. MULTIPLY BY 2
$6.50S + 2.00D = 836.50$
C. SUBTRACT
$2S + 2D = 418$
$4.50S = 418.50$
D. SOLVE FOR S
$S = 93$

Townsend Realty Group Investments		
Property address	Purchase price (dollars)	Monthly rental price (dollars)
Clearwater Lane	128,000	950
Driftwood Drive	176,000	1,310
Edgemont Street	70,000	515
Glenview Street	140,000	1,040
Hamilton Circle	450,000	3,365

H **24** GET FAMILIAR! 5

Townsend Realty purchased the Glenview Street property and received a 40% discount off the original price along with an additional 20% off the discounted price for purchasing the property in cash. Which of the following best approximates the original price, in dollars, of the Glenview Street property?

A) $350,000
B) $291,700
C) $233,300
D) $175,000

A. DIVIDE BY (1.0 − .2)
$140,000 \div .8 = 175,000$
B. DIVIDE BY (1.0 − .4)
$175,000 \div .6 = 291,666$
"BEST APPROXIMATES"

H **25** TRANSLATE 5

A psychologist set up an experiment to study the tendency of a person to select the first item when presented with a series of items. In the experiment, 300 people were presented with a set of five pictures arranged in random order. Each person was asked to choose the most appealing picture. Of the first 150 participants, 36 chose the first picture in the set. Among the remaining 150 participants, p people chose the first picture in the set. If more than 20% of all participants chose the first picture in the set, which of the following inequalities best describes the possible values of p?

A) $p > 0.20(300 - 36)$, where $p \le 150$
B) $p > 0.20(300 + 36)$, where $p \le 150$
C) $p - 36 > 0.20(300)$, where $p \le 150$
D) $p + 36 > 0.20(300)$, where $p \le 150$

YADA YADA YADA
A. LABEL
$36 + P > 20\% \cdot 300$
B. MATCH ANSWER

WITH Calculator

ENGLISH TO MATH cont.

Questions 25 and 26 refer to the following information.

Energy per Gram of Typical Macronutrients

Macronutrient	Food calories	Kilojoules
Protein	4.0	16.7
Fat	9.0	37.7
Carbohydrate	4.0	16.7

The table above gives the typical amounts of energy per gram, expressed in both food calories and kilojoules, of the three macronutrients in food.

H

25 7

If x food calories is equivalent to k kilojoules, of the following, which best represents the relationship between x and k ?

A. PLUG IN * NOTICE "BEST" = APPROXIMATE

A) $k = 0.24x$ ✗

B) $k = 4.2x$ $4.2(4.0) = 16.8$ $4.2(9.0) = 37.8$

C) $x = 4.2k$ ✗

D) $xk = 4.2$ ✗

H

26 SLICK! GET FAMILIAR 7

If the 180 food calories in a granola bar come entirely from p grams of protein, f grams of fat, and c grams of carbohydrate, which of the following expresses f in terms of p and c ?

A) $f = 20 + \frac{4}{9}(p + c)$

B) $f = 20 - \frac{4}{9}(p + c)$

C) $f = 20 - \frac{4}{9}(p - c)$

D) $f = 20 + \frac{9}{4}(p + c)$

A. LABEL

$4P + 9F + 4C = 180$

B. SOLVE FOR F

$9F = 180 - 4P - 4C$

$F = \frac{180 - 4P - 4C}{9}$

$F = \frac{180}{9} - \frac{4P}{9} - \frac{4C}{9}$

$F = 20 - \frac{4}{9}(P + C)$

C. WATCH YOUR MECHANICS!

Student Response

E

31 GET FAMILIAR 1

Wyatt can husk at least 12 dozen ears of corn per hour and at most 18 dozen ears of corn per hour. Based on this information, what is a possible amount of time, in hours, that it could take Wyatt to husk 72 dozen ears of corn?

" = MORE THAN ONE ANSWER

A. LABEL

≤ 18 $72 \div 18 = 4$

≥ 12 $72 \div 12 = 6$

AND 5

E

32 TRANSLATE 1

The posted weight limit for a covered wooden bridge in Pennsylvania is 6000 pounds. A delivery truck that is carrying x identical boxes each weighing 14 pounds will pass over the bridge. If the combined weight of the empty delivery truck and its driver is 4500 pounds, what is the maximum possible value for x that will keep the combined weight of the truck, driver, and boxes below the bridge's posted weight limit?

A. LABEL

≤ 6000

$14x + 4500$

B. SOLVE FOR X

$14x + 4500 \leq 6000$

$14x \leq 1500$

$x \leq 107.14$

C. MAX POSSIBLE MUST BE WHOLE BOXES

M

33 TRANSLATE 6

The score on a trivia game is obtained by subtracting the number of incorrect answers from twice the number of correct answers. If a player answered 40 questions and obtained a score of 50, how many questions did the player answer correctly?

NOTE: THIS IS SIMILAR TO QUESTIONS 6 & 19 ON PREVIOUS PAGE

A. LABEL

$2C - I = \text{SCORE}$

B. PLUG IN

C. ADD TO GET RID OF I

$2C - I = 50$

$+ \quad C + I = 40$

$3C \quad = 90$

$C = 30$

M

34 2

In one semester, Doug and Laura spent a combined 250 hours in the tutoring lab. If Doug spent 40 more hours in the lab than Laura did, how many hours did Laura spend in the lab?

A. LABEL

B. NOTICE $D = L + 40$

$D + L = 250$

$L + 40 + L = 250$

$2L + 40 = 250$

C. SOLVE FOR L

$2L = 210$

$L = 105$