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

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

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

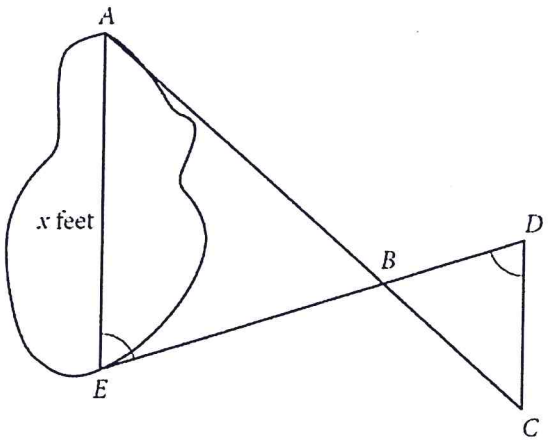
For the function g defined above, a is a constant and $g(4) = 8$. What is the value of $g(-4)$?

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

15. If $(ax + 2)(bx + 7) = 15x^2 + cx + 14$ for all values of x, and $a + b = 8$, what are the two possible values for c ?

A) 3 and 5
B) 6 and 35
C) 10 and 21
D) 31 and 41

17. 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 ?



Bellwork Answers

(8) $\frac{a}{b} = 2 \rightarrow \frac{a}{b} = \frac{2}{1}$ using a property of proportions

$\frac{b}{a} = \frac{1}{2}$

multiply both sides by 4

$4 \cdot \frac{b}{a} = \frac{1}{2} \cdot 4$

$\frac{4b}{a} = 2$

C

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

since x^2 is always positive $(4)^2 = (-4)^2$

$a(4)^2 + 24 = a(-4)^2 + 24$ regardless of the value of a

$g(4) = g(-4) = 8$

A

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(15) $(ax + 2)(bx + 7) = 15x^2 + cx + 14$

$a \cdot b = 15 \rightarrow$ a & b are either 3 & 5 or 1 & 15

since $a + b = 8$ a & b are 3 & 5

This leads to two possibilities

$(3x+2)(5x+7) = 15x^2 + 21x + 10x + 14 = 15x^2 + 31x + 14$

or

$(5x+2)(3x+7) = 15x^2 + 35x + 6x + 14 = 15x^2 + 41x + 14$

$c = 31$ or 41

D

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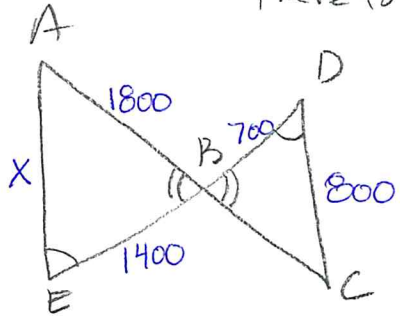
(17) Given Vertical $\angle$s are $\cong$ $\triangle BCD \sim \triangle BAE$ (AA similarity)

Therefore corresponding sides are proportional



$\frac{BD}{BE} = \frac{CD}{AE}$ $\frac{700}{1400} = \frac{800}{X}$

$X = 1600$