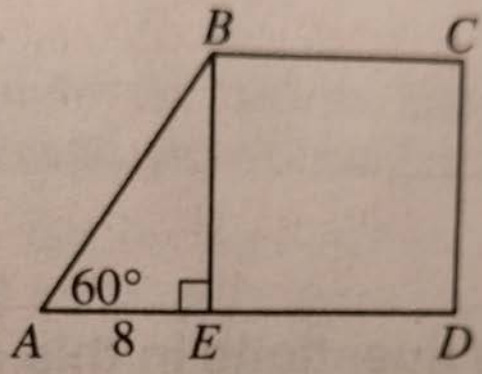
SAT Hards (from older SAT tests) - Test 10

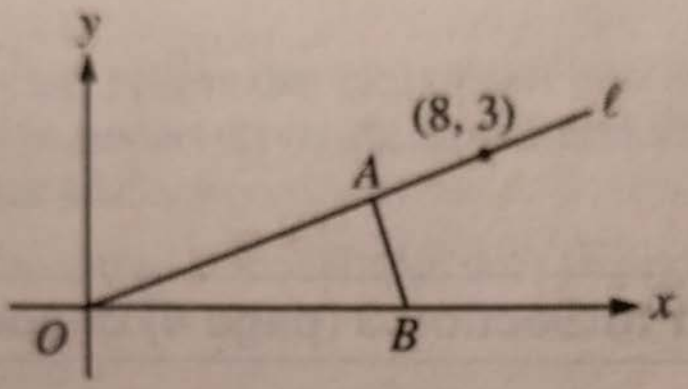
8. If $2x + z = 2y$ and $2x + 2y + z = 20$, what is the value of y?

(A) 5
(B) 8
(C) 10
(D) 15
(E) It cannot be determined from the information given.



15. In the figure above, $EBCD$ is a square and $AE = 8$. What is the area of $EBCD$?

16. In a mixture of peanuts and cashews, the ratio by weight of peanuts to cashews is 5 to 2. How many pounds of cashews will there be in 4 pounds of this mixture?



17. Line m (not shown) passes through O and intersects $\overline{AB}$ between A and B. What is one possible value of the slope of line m ?

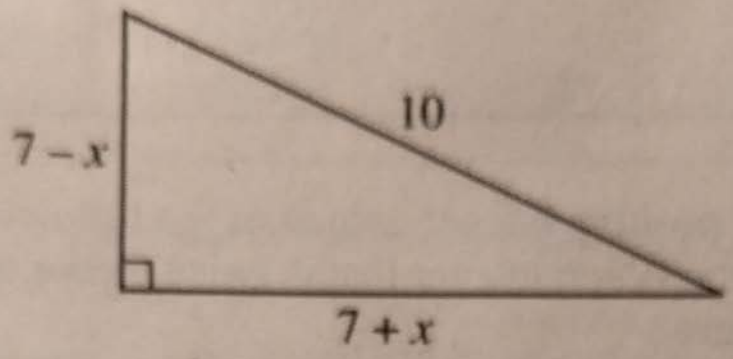
WESTON HIGH SCHOOL ENROLLMENT

Year	Number of Students Enrolled
1992	x
1993	1552
1994	1238
1995	1459
1996	1351

18. The table above shows student enrollment at Weston High School from 1992 through 1996. If the median enrollment for the five years was 1351, and no two years had the same enrollment, what is the greatest possible value for x ?

14. How many integers greater than 20 and less than 30 are each the product of exactly two different numbers, both of which are prime?

(A) Zero
(B) One
(C) Two
(D) Three
(E) Four



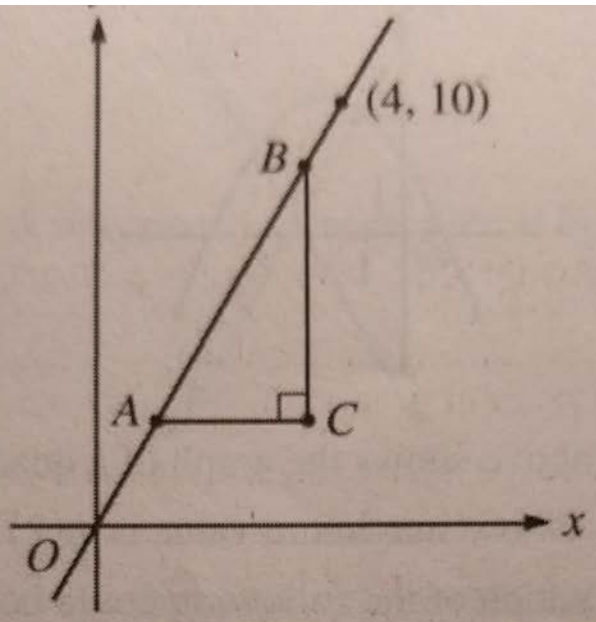
Note: Figure not drawn to scale.

15. The figure above is a right triangle. What is the value of $49 + x^2$?

(A) 50
(B) 51
(C) 72
(D) 98
(E) 100

17. If k and h are constants and $x^2 + kx + 7$ is equivalent to $(x + 1)(x + h)$, what is the value of k?

(A) 0
(B) 1
(C) 7
(D) 8
(E) It cannot be determined from the information given.



Note: Figure not drawn to scale.

18. In the figure above, if the legs of triangle ABC are parallel to the axes, which of the following could be the lengths of the sides of triangle ABC ?

(A) 2, 5, and $\sqrt{29}$

(B) 2, 5, and 7

(C) 3, 3, and $3\sqrt{2}$

(D) 3, 4, and 5

(E) 4, 5, and $\sqrt{41}$

20. If k is a positive integer, which of the following must represent an even integer that is twice the value of an odd integer?

(A) $2k$
(B) $2k + 3$
(C) $2k + 4$
(D) $4k + 1$
(E) $4k + 2$

15. If $\frac{n}{n-1} \cdot \frac{1}{n} \cdot \frac{n}{n+1} = \frac{5}{k}$ for positive integers n and k, what is the value of k?

(A) 1
(B) 5
(C) 24
(D) 25
(E) 26

16. To celebrate a colleague's graduation, the m coworkers in an office agreed to contribute equally to a catered lunch that costs a total of y dollars. If p of the coworkers fail to contribute, which of the following represents the additional amount, in dollars, that each of the remaining coworkers must contribute to pay for the lunch?

(A) $\frac{y}{m}$

(B) $\frac{y}{m - p}$

(C) $\frac{py}{m - p}$

(D) $\frac{y(m - p)}{m}$

(E) $\frac{py}{m(m - p)}$