6. ABCD is a quadrilateral such that $AB = BC$, $AD = \frac{1}{2}CD$, and $AD = \frac{1}{4}AB$. If $BC = 12$, what is the perimeter of ABCD ?

(A) 44
(B) 42
(C) 40
(D) 36
(E) 33

7. If a, b, c, and d are consecutive multiples of 5, and $a < b < c < d$, what is the value of $(a - c)(d - b)$?

(A) −100
(B) −25
(C) 0
(D) 50
(E) 100

9. A store sells boxes of 6 lightbulbs for \$30 each, and boxes of 12 lightbulbs for \$48 each. The price per bulb is what percent less when purchased in a box of 12 than in a box of 6 ?

(A) 80%
(B) 75%
(C) 50%
(D) 25%
(E) 20%

13. Line l contains points (3, 2) and (4, 5). If line m is perpendicular to line l, then which of the following could be the equation of line m ?

(A) $y = -\frac{1}{5}x + 3$

(B) $y = -\frac{1}{3}x + 5$

(C) $y = -3x + 5$

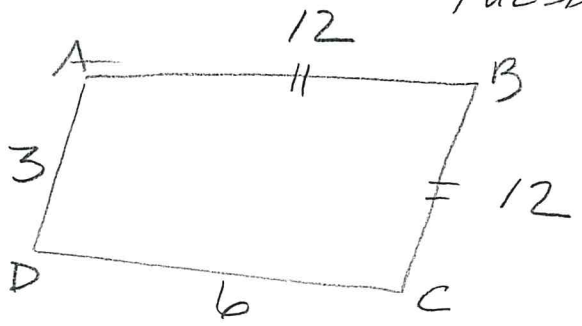
(D) $y = 5x + \frac{1}{3}$

(E) $y = 5x + \frac{1}{3}$

ALG 2 BELLWORK ANSWERS

TUESDAY JAN 12, 2016

(6)



$\frac{1}{4}AB$:
$\frac{1}{4}(12)$
$= 3$

$AD = \frac{1}{2}CD$

$2 \cdot 3 = \frac{1}{2}CD \cdot 2$

$6 = CD$

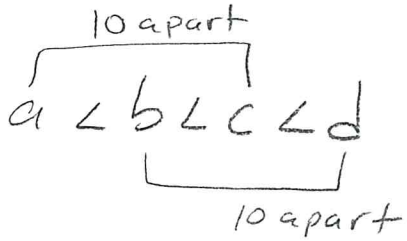
PERIMETER $= 12+12+3+6$

$= 33$

E

---

(7) consecutive multiples are separated by 5



$a - c = -10$

$d - b = +10$

$(-10)(+10) = -100$

A

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(9) 6 bulbs for \$30 = \$5 per bulb

12 bulbs for \$48 = \$4 per bulb

E

% change $= \frac{5-4}{5} \times 100 = \frac{1}{5} \times 100 = 20\%$

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(13) (3,2) LINE ℓ (4,5)

$m = \frac{5-2}{4-3} = \frac{3}{1}$

slope of $\perp$ line $= -1/3$

B