11. What is the sum of the 2 solutions to the equation $x^2 - 2x - 15 = 0$?

A. -8
B. -2
C. 2
D. 8
E. 15

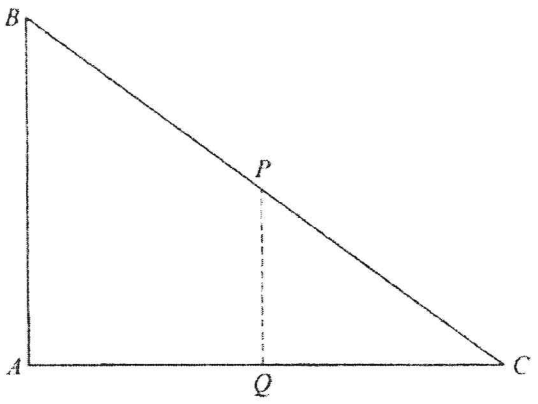
13. How long, in minutes, would it take a car to travel 18 miles at a constant speed of 45 miles per hour?

A. 20
B. 24
C. 28
D. 34
E. 40

15. For the area of a square to triple, the new side length must be the original side length multiplied by what number?

A. $\sqrt{3}$
B. 2
C. $2\sqrt{3}$
D. 3
E. 9

16. In the right triangles below, $\overline{PQ}$ is 4 cm, $\overline{QC}$ is 3 cm, $\overline{AB}$ is 8 cm, and $\overline{BP}$ is 5. How long, in cm, is $\overline{AQ}$?



F. 2
G. 3
H. 4
J. 5
K. 6

21. $\frac{3}{5} \cdot \frac{4}{6} \cdot \frac{5}{7} \cdot \frac{6}{8} \cdot \frac{7}{9} = ?$

A. $\frac{1}{2}$
B. $\frac{1}{3}$
C. $\frac{1}{6}$
D. $\frac{3}{8}$
E. $\frac{4}{9}$

25. The operation $\otimes$ is defined by the following:

$$a \otimes b = 2 - a + b + a \times b$$

For example, $2 \otimes 3 = 2 - 2 + 3 + 2 \times 3 = 9$.
If $a = -7$ and $b = 2$, then $a \otimes b = ?$

A. -3
B. 0
C. 8
D. 28
E. 72

Algebra 2 Bellwork Tuesday, December 16, 2014

11. What is the sum of the 2 solutions to the equation $x^2 - 2x - 15 = 0$?

A. -8
B. -2
C. 2
D. 8
E. 15

$(x-5)(x+3)=0$

$x = 5 \text{ & } -3$

$5 + -3 = 2$

13. How long, in minutes, would it take a car to travel 18 miles at a constant speed of 45 miles per hour?

A. 20
B. 24
C. 28
D. 34
E. 40

$d = rt$

$18\text{mi} = 45\text{mph} \cdot t$

$0.4 = t$ hrs

$.4\text{h} = 24\text{min}$

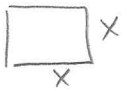
15. For the area of a square to triple, the new side length must be the original side length multiplied by what number?

A. $\sqrt{3}$
B. 2
C. $2\sqrt{3}$
D. 3
E. 9

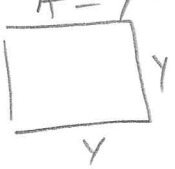
$\sqrt{y^2} = \sqrt{3x^2}$

$y = \sqrt{3}x$

$A = x^2$



$A = y^2$



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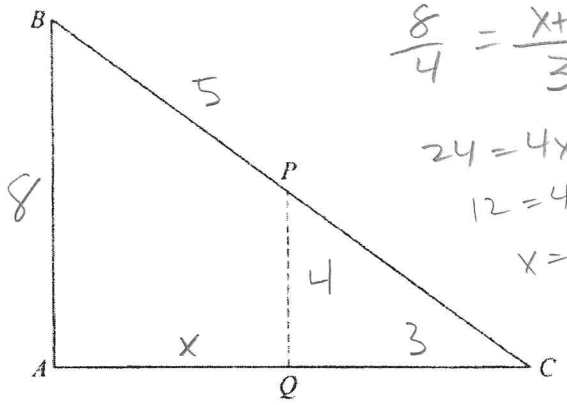

F. 2
G. 3
H. 4
J. 5
K. 6

$\frac{8}{4} = \frac{x+3}{3}$

$24 = 4x + 12$

$12 = 4x$

$x = 3$

21. $\frac{3}{5} \cdot \frac{4}{6} \cdot \frac{5}{7} \cdot \frac{6}{8} \cdot \frac{7}{9} = ?$

A. $\frac{1}{2}$
B. $\frac{1}{3}$
C. $\frac{1}{6}$
D. $\frac{3}{8}$
E. $\frac{4}{9}$

$\frac{12}{72} = \frac{1}{6}$

25. The operation $\otimes$ is defined by the following:

$$a \otimes b = 2 - a + b + a \times b$$

For example, $2 \otimes 3 = 2 - 2 + 3 + 2 \times 3 = 9$.
If $a = -7$ and $b = 2$, then $a \otimes b = ?$

A. -3
B. 0
C. 8
D. 28
E. 72

$2 + (+7) + (2) + (-7)(2)$

$11 + -14 = -3$