Bellwork Hon Alg 2 Wednesday, March 8, 2017

1. $\sqrt{2k^2+17} - x = 0$

If $k > 0$ and $x = 7$ in the equation above, what is the value of k?

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

2. If $\frac{x^{a^2}}{x^{b^2}} = x^{16}$, $x > 1$, and $a + b = 2$, what is the value of $a - b$?

A. 8
B. 14
C. 16
D. 18

3. In the xy-plane, the parabola with equation $y = (x-11)^2$ intersects the line with equation $y = 25$ at two points, A and B. What is the length of $\overline{AB}$?

A. 10 B. 12 C. 14 D. 16

4. Write each in radical form.

a) $G^{\frac{7}{2}}$ b) $(A^2)^{\frac{4}{3}}$ c) $B^{-1.2}$

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Hon Alg 2 Bellwork 3-8-17

ANSWERS

(1) $\sqrt{2k^2+17} - x = 0$ $\quad x=7$, $k>0$

$\sqrt{2k^2+17} - 7 = 0$

$\left(\sqrt{2k^2+17}\right)^2 = (7)^2$

$2k^2+17 = 49$

$-17 \quad -17$

$\frac{2k^2}{2} = \frac{32}{2}$

$\sqrt{k^2} = \sqrt{16}$

$k = \pm 4$

$k = 4$ C

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(2) $\frac{x^{a^2}}{x^{b^2}} = x^{16} \rightarrow x^{a^2-b^2} = x^{16} \rightarrow a^2-b^2 = 16$

$(a+b)(a-b) = 16$

$a+b=2 \rightarrow (2)(a-b) = 16$

$\frac{(2)}{2}(a-b) = \frac{16}{2}$

A

$a-b = 8$

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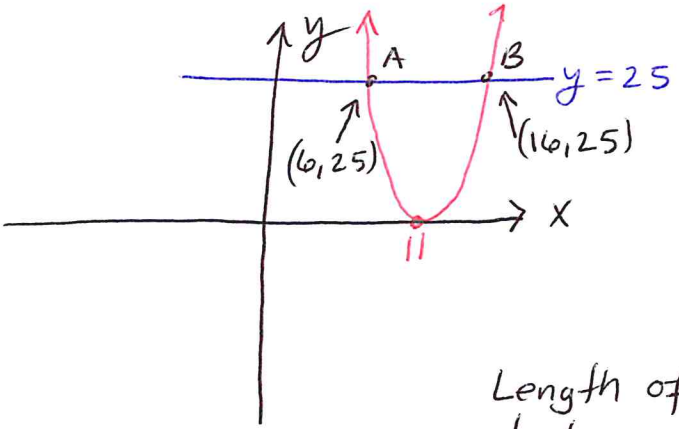
(3) $y = (x-11)^2 \rightarrow$ 11 RIGHT



$\sqrt{25} = \sqrt{(x-11)^2}$

$x-11 = \pm 5$

$+11 \quad +11$

$x = +5+11 = 16$

$x = -5+11 = 6$

Length of $\overline{AB}$ is the distance between (6,25) AND (16,25)

$AB = 10$ A

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(4) a) $G^{\frac{7}{2}} = \sqrt{G^7}$ or $(\sqrt{G})^7$

b) $(A^2)^{4/3} = A^{2\cdot 4/3} = A^{8/3} = \sqrt[3]{A^8}$ or $(\sqrt[3]{A})^8$

c) $B^{-1.2} = B^{-12/10} = B^{-6/5} = \frac{1}{\sqrt[5]{B^6}}$ or $\frac{1}{(\sqrt[5]{B})^6}$