

Bellwork Alg 2B Friday, September 8, 2017

1. 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

Write each in radical form. Simplify if possible.

2. $G^{\frac{5}{2}}$

3. $(A^2)^{-\frac{4}{3}}$

4. $B^{1.31}$

Write in exponential form. Simplify if possible.

5. $\sqrt[3]{8c^9d^2}$

6. $3 \cdot \sqrt[4]{(5m^3)^8}$

1. 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} ?

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points of intersection are:

$$(16, 25) \text{ \& } (6, 25)$$

THE DISTANCE BETWEEN
THESE TWO POINTS
IS $16 - 6 = 10$ units

$$(x-11)^2 = 25$$

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

$$x-11 = \pm 5$$

$$x = 5+11 = 16$$

$$x = -5+11 = 6$$

Write each in radical form. Simplify if possible.

2. $G^{\frac{5}{2}}$

$$\sqrt{G^5}$$

or

$$(\sqrt{G})^5$$

3. $(A^2)^{-\frac{4}{3}}$

$$= \frac{1}{(A^2)^{4/3}}$$

$$= \frac{1}{A^{2 \cdot 4/3}}$$

$$= \frac{1}{A^{8/3}}$$

$$= \frac{1}{\sqrt[3]{A^8}}$$

4. $B^{1.31} = B^{\frac{131}{100}}$

$$= \sqrt[100]{B^{131}}$$

Write in exponential form. Simplify if possible.

5. $\sqrt[3]{8c^9d^2}$

$$= (8c^9d^2)^{1/3}$$

$$= 8^{1/3} c^{9/3} d^{2/3}$$

$$= 2c^3 d^{2/3}$$

6. $3 \cdot \sqrt[4]{(5m^3)^8}$

$$= 3 \cdot [(5m^3)^8]^{1/4}$$

$$= 3 \cdot (5m^3)^2$$

$$= 3(25m^6)$$

$$= 75m^6$$