Bellwork

Alg 2

Friday, November 9, 2018

NO calculator may be used on these questions.

1. $(x^2y^3)^{\frac{1}{2}}(x^2y^3)^{\frac{1}{3}} = x^{\frac{a}{3}}y^{\frac{a}{2}}$ If this equation, where *a* is a constant, is true for all positive values of *x* and *y*, what is the value of a?

- A) 2
- B) 3
- C) 5
- D) 6

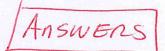
2. A parachute design uses 18 separate pieces of rope. Each piece of rope must be at least 270 centimeters and no more than 280 centimeters long. What inequality represents all possible values of the total length of rope, x, in centimeters, needed for the parachute?

- A) $270 \le x \le 280$ B) $4860 \le x \le 4870$
- C) $4860 \le x \le 5040$
- D) $5030 \le x \le 5040$

3. If the equation y = (x - 6)(x + 12) is graphed in the xy -plane, what is the x-coordinate of the parabola's vertex?

- A) -6 B) -3 C) 3 D) 6

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1. $(x^2y^3)^{\frac{1}{2}}(x^2y^3)^{\frac{1}{3}} = x^{\frac{a}{3}}y^{\frac{a}{2}}$ If this equation, where a is a constant, is true for all positive values of x and y, what is the value of a?

use the product rule 2nd ?

$$= \times \frac{1+\frac{2}{3}}{3} \cdot \frac{3}{2} + 1$$

$$= \times \frac{3}{3} + \frac{2}{3} \cdot \frac{3}{2} + \frac{2}{2}$$

$$= \times \frac{5}{3} \cdot \frac{5}{2}$$

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compared exponents on both sites;

2. A parachute design uses 18 separate pieces of rope. Each piece of rope must be at least 270 centimeters and no more than 280 centimeters long. What inequality represents all possible values of the total length of rope, x, in centimeters, needed for the parachute?

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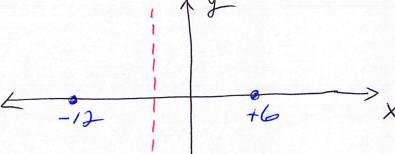
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$$4860 \le x \le 5040$$

D)
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The difference between 270 & 280 is 10. If you multiply each by 18 the difference between them will be 18-10=180

ANGWER C is the only choice with a difference of 180.

3. If the equation y = (x - 6)(x + 12) is graphed in the xy –plane, what is the x-coordinate of the parabola's vertex?



X=-3

X-Intercepts are +6,-12

the line of Symmetry is exactly in the middle of these x-intercepts: $X = \frac{-12+6}{2} = \frac{-6}{2} = -3$

The x-coordinate of the Vertex = LOS