



7. In the equation  $y = 33(1.09^x)$ ,  $y$  represents the number of cans of soda drank in a certain town in thousands and  $x$  represents the number of years since 1992. Find the year when the people of the town drank 50 thousand cans of soda for the first time.

7.

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8. Solve for  $x$ :  $\log_3(7x + 4) - \log_3 2 = 2 \log_3 x$

8.

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9. Solve for  $x$ :  $2 \log_2 x - \log_2(x - 1) = 3$

9.

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10. If  $\cos 3x^\circ = \sin 60^\circ$ , then  $x$  may equal

- (1) 10                      (3) 30  
 (2) 20                      (4) 40

11. If  $f(x) = x^{-\frac{2}{3}}$ , find  $f\left(\frac{16}{9}\right)$ .

10.

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11.

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12. Expressed as a function of a positive acute angle,  $\cot(-120^\circ)$  is equivalent to

- (1)  $-\tan 60^\circ$             (3)  $-\cot 30^\circ$   
 (2)  $\cot 60^\circ$              (4)  $\cot 30^\circ$

13. Express in simplest form:

$$\frac{4x^2 - 100}{x^2 + x - 6} \div \frac{20 - 4x}{2x^2 - 9x + 10}$$

12.

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13.

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