

Practice Quiz 6

Show All Work

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Name

1. Solve for x : $(3x + 7)^{4/3} = 19$

2. Solve for x : $3^{3x+7} = 19$

3. Solve for x : $e^{3x+7} = 19^x$

4. A student invests \$7,250 in an account that pays 4.5 percent interest per year, compounded six times a year. (Recall: $A(t) = A_0(1 + \frac{r}{n})^{nt}$)

a. Write down a formula for the value of the investment as a function time in years.

b. How much will it be worth in 2 years?

5. A student invests \$7,250 in an account that pays 4.5 percent interest per year, compounded six times a year. How long will it take until the investment is worth 50,750

ANSWERS: 1: 0.700166; 2: -1.43995; 3: -125.988;

4a: $A(t) = 7,250\left(1 + \frac{0.045}{6}\right)^{6t}$; 4b: \$7,930.1; 5: 43.4044 years.

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6. Solve for x : $(3x + 5)^{3/7} = 16$

7. Solve for x : $7^{3x+5} = 16$

8. Solve for x : $e^{3x+5} = 16^x$

9. A student invests \$3,250 in an account that pays 3.5 percent interest per year, compounded four times a year. (Recall: $A(t) = A_0(1 + \frac{r}{n})^{nt}$)

a. Write down a formula for the value of the investment as a function time in years.

b. How much will it be worth in 5 years?

10. A student invests \$3,250 in an account that pays 3.5 percent interest per year, compounded four times a year. How long will it take until the investment is worth 35,750

ANSWERS: 6: 213.36; 7: -1.19172 ; 8: -21.9866 ;

9a: $A(t) = 3,250\left(1 + \frac{0.035}{4}\right)^{4t}$; 9b: \$3,868.6; 10: 68.8106 years.