

- 7. Rewrite $\sqrt[3]{-0.343}$ using rational exponents and evaluate.

- Rewrite $243^{\frac{5}{5}}$ in radical form and evaluate.
 - 9. Solve for x in the equation $x^{\frac{5}{2}} = 0.00243$. Assume x is positive.
- 10. Solve for x in the equation $x^4 = 81$. Assume x is positive.
- 11. A sample of iodine-125 undergoes radioactive decay.

The equation $M = 17(0.976)^{\frac{1}{2}}$ gives the mass M grams of iodine-125 remaining after t days. Determine the initial mass and the mass remaining after 50 days.

- 12. The formula $D = 0.099M^{\frac{9}{10}}$ gives the drinking rate, D litres per day, of a mammal with body mass M kilograms. Determine the body mass of a mammal with a drinking rate of 25 L/day.
- 13. Express 8 as a power of 2.

- 14. Solve the equation x 3 = 2 7x
- 15. Solve the equation $3^{2x} = 9$ algebraically, by getting both sides of the equation as powers of the same base (base 3 in





















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- 16. Solve the equation $9^{2-5x} = 1$ algebraically.
- 17. Solve the equation $5^{3x-4} = 125^{-x}$ algebraically.













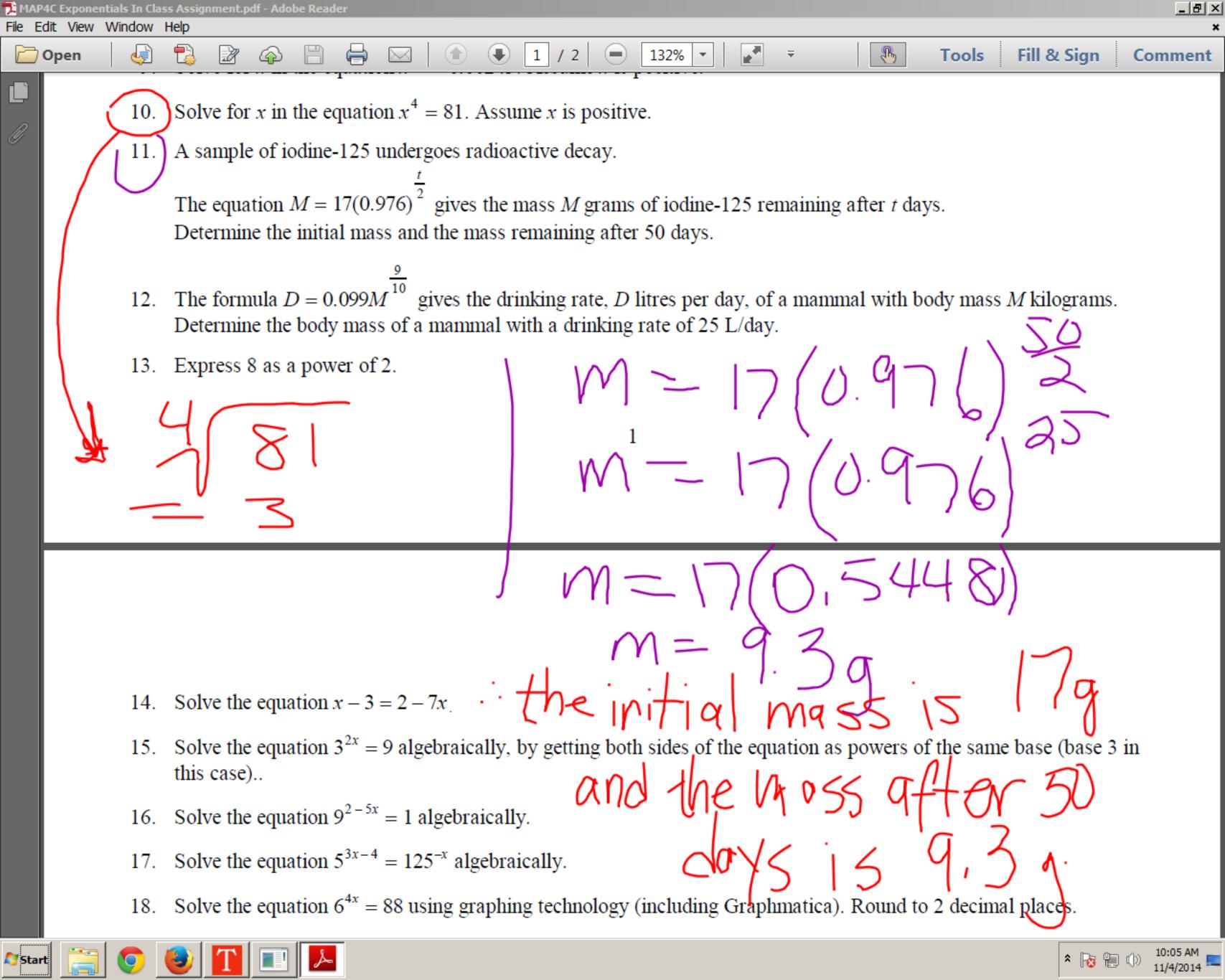




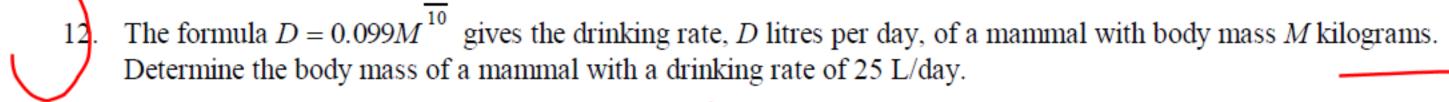








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- Solve the equation $6^{4x} = 88$ using graphing technology (including Graphmatica). Round to 2 decimal places.
- 19. Hillary walks to work in the winter with a cup of coffee.

The cup of coffee's temperature, T degrees Celsius, after m minutes is modelled by the equation $T = 75(2)^{-\frac{m}{6}}$. Determine how long it takes for the temperature of the coffee to reach 26°C.

20. The value, V dollars, of a new truck t years after purchase is $V = 45\,500(0.91)^t$.

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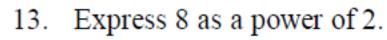


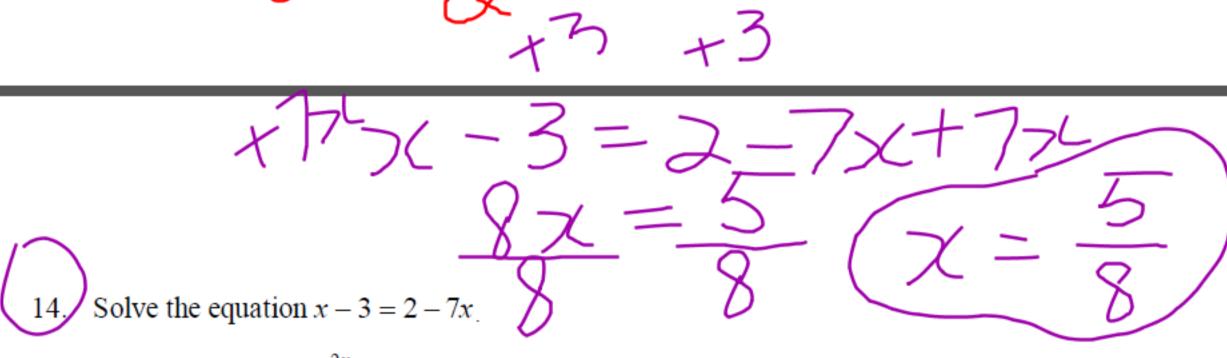












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- 20. The value, V dollars, of a new truck t years after purchase is $V = 45\,500(0.91)^t$. Determine when the truck is worth \$35 500.
- 21. Suppose you invest \$800 at 6.7% a year, compounded annually. After n years, the amount of the investment is given by $A = 800(1.067)^n$.





































c) If a 2.92-kg package costs \$13.98 to ship, what is the fixed cost?

