

3U Unit 3 Quiz 2

1. Solve for x using methods taught in class. No decimals.

a) $8^{3x-1} = 16^{4-x}$

b) $2(5^{4x-1}) + 7 = 9$

c) $3^{x+1} - 3^{x+4} = -2106$

2. Jared buys a car for \$13 000. The value of the car depreciates by 35% each year. Write an equation to model the value of Jared's car. Define your variables.

3. In 21 hours, a sample of a radioactive substance decays from 700 mg to 87.5 mg. Algebraically determine the half-life of the substance.

4. Graph $f(x) = -2^{\frac{x}{4}} + 3$.

