Worksheet on Simple and Compound Interest

Use these formulas to answer the questions

Simple Interest:

Amount of Money after time = Amount invested initially (1 + rate x time)

So, $A = P(1 + rt)$ where P stands for the Principal (initial investment)

Compound Interest:

 Amount of Money after time = Amount invested initially (1 + rate)^{time}

So, $A = P(1 + r)^t$

1. Invest $5000 at 4% simple interest for 1 year.

2. Invest $5000 at 4% compound interest for 1 year.

3. Invest $5000 at 4% simple interest for 10 years.

4. Invest $5000 at 4% compound interest for 10 years.

5. How much interest would you earn in #3?

6. How much interest would you earn in #4?

7. Invest $40,000 at 6% simple interest for 30 years.

8. Invest $40,000 at 6% compound interest for 30 years.

9. How much interest would you earn in #7?

10. How much interest would you earn in #8?

11. What interest rate would you need to turn $40,000 into a millions dollars in 30 years using compound interest?

12. Is the rate in #11 realistic?

13. In what situation(s) would you prefer simple interest?

14. Is it realistic to assume that one day you would have $40,000 of excess money to invest? If so, give at least one scenario.