1. (a) $\boxed{\text{geometric, } r = 1.1}$ (b) $\boxed{\text{geometric, } r = \frac{1}{2}}$ (c) $\boxed{\text{geometric, } r = a^2}$ (d) $\boxed{\text{No}}$

2. (a) $\boxed{r = -\frac{1}{12},\ a_5 = \frac{1}{144},\ a_n = 144(-\frac{1}{12})^{n-1}}$ (b) $\boxed{r = 3^{2/3},\ a_5 = 3^{1/13},\ a_n = 3(3^{2/3})^{n-1}}$

   (c) $\boxed{r = \frac{1}{4},\ a_5 = -\frac{1}{32},\ a_n = -8(\frac{1}{4})^{n-1}}$ (d) $\boxed{r = \frac{t}{2},\ a_5 = \frac{t^5}{16},\ a_n = t(\frac{t}{2})^{n-1}}$

3. (a) $a = 3, r = \frac{1}{2}, n = 11$. Use sum formula $a\dfrac{1-r^n}{1-r}$. $\boxed{\frac{6141}{1024} = 5\frac{1021}{1024} \approx 6}$

   (b) $a = 1, r = \frac{3}{2}, n = 5$. $\boxed{\frac{211}{16} = 3\frac{3}{16} = 13.1875}$

4. Sum formula for infinite geometric series: $\dfrac{a}{1-r}$.

   (a) $a = 1, r = -\frac{1}{2}$. $S = \dfrac{a}{1-r} = \dfrac{1}{1+\frac{1}{2}} = \dfrac{1}{\frac{3}{2}} = \boxed{\frac{2}{3}}$

   (b) $a = -\frac{100}{9}, r = -\frac{3}{10}$. $S = \dfrac{-\frac{100}{9}}{1+\frac{3}{10}} = \dfrac{-\frac{100}{9}}{\frac{13}{10}} = \boxed{-\frac{1000}{117} = 8\frac{64}{117} \approx -8.55}$

   (c) $a = \frac{1}{\sqrt{2}}, r = \frac{1}{\sqrt{2}}$. $S = \dfrac{\frac{1}{\sqrt{2}}}{1-\frac{1}{\sqrt{2}}} = \dfrac{\frac{1}{\sqrt{2}}}{\frac{\sqrt{2}-1}{\sqrt{2}}} = \dfrac{1}{\sqrt{2}-1} = \boxed{\sqrt{2}+1 \approx 2.41}$

   (d) $a = \frac{2}{5}, r = \frac{2}{5}$. $S = \dfrac{\frac{2}{5}}{1-\frac{2}{5}} = \dfrac{\frac{2}{5}}{\frac{3}{5}} = \boxed{\frac{2}{3}}$

5. (a) $\boxed{\text{Neither}}$ (b) $\boxed{\text{Arithmetic; } 3}$ (c) $\boxed{\text{Geometric; } 9\sqrt{3}}$ (d) $\boxed{\text{Geometric; } 1}$ (e) $\boxed{\text{Neither}}$ (f) $\boxed{\text{Arithmetic; } x+3}$ (g) $\boxed{\text{Arithmetic; } 3}$ (h) $\boxed{\text{Neither}}$