Complex numbers in standard form

Recall that the standard form of complex numbers is $a + bi$, where $a, b \in \mathbb{R}$

Exercise 1.1

Find the complex numbers in normal form corresponding to the following expressions:

a. $\left(\dfrac{1+i}{1-i}\right)^2$

b. $(1-i)(1+i)\dfrac{2}{2-i}$

c. $(-i)^{3253}$

d. $\dfrac{1-i^2+i^4-i^6+i^8-i^{10}}{1+i+i^2+i^3+i^4+i^5}$

e. $\sqrt{i}$

f. $\sqrt{-2i}$

g. $\sqrt{1+i\sqrt{3}}+\sqrt{1-i\sqrt{3}}$