7.NS Repeating decimal as approximation

Task

a. Use long division to find the repeating decimal that represents $\frac{29}{13}$

b. Take the number obtained by including only the first two digits after the decimal point, and multiply that by 13.

c. Take the number obtained by including only the first four digits after the decimal point, and multiply that by 13.

d. Take the number obtained by including only the first six digits after the decimal point, and multiply that by 13.

e. What do you notice about the product of 13 and decimal approximations of $\frac{29}{13}$ as more and more digits are included after the decimal point?

f. How does what you observed in Part (e) help make sense of what it means for $\frac{29}{13}$ to be equal to the repeating decimal expression you found in the Part (a)?