

8.NS Approximating π

Task

a. Different cultures through history have used many different rational numbers to approximate π . For each of the historical approximations below, use a calculator to determine approximately how far the fraction is from π :

i. $\frac{22}{7}$

ii. $\frac{25}{8}$

iii. $\left(\frac{9785}{5568}\right)^2$

iv. $\frac{355}{113}$

b. The fraction with denominator 1 which is closest to π is $\frac{3}{1} = 3$. For each of the following whole numbers, find the fraction with this denominator which is closest to π :

i. 3

ii. 10

iii. 20

iv. 100

v. 113

vi. 10000

c. Look for patterns in the data you've collected thus far. What effect does increasing the denominator have on the accuracy of the best approximation?



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