

## Answers to Worksheet 42 - Rational & Prime Numbers

1)  $\frac{5008}{999}$

2)  $-\frac{17}{9999}$

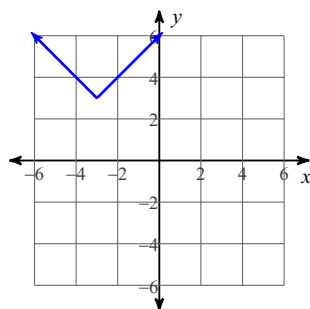
3)  $0.4999... = 0.4 + 0.0999...$   
 $= \frac{4}{10} + \sum_{n=0}^{\infty} \frac{9}{100} \cdot \left(\frac{1}{10}\right)^n$   
 $= \frac{4}{10} + \frac{9}{1 - \frac{1}{10}}$   
 $= \frac{4}{10} + \frac{1}{10}$   
 $= \frac{1}{2}$

4) Yes, their GCD is 1.

5) No, their GCD is 19.

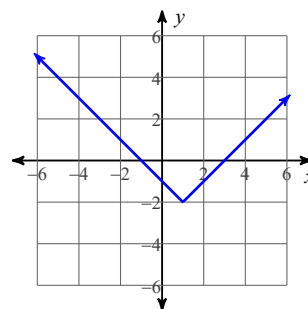
7)  $\begin{bmatrix} 13 & -26 & -34 \\ -15 & 44 & 52 \\ -18 & -20 & -28 \end{bmatrix}$

8)

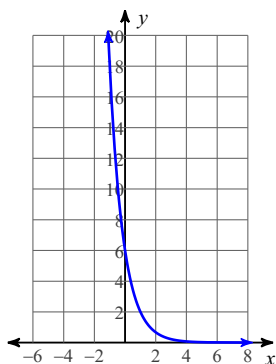


6) Undefined

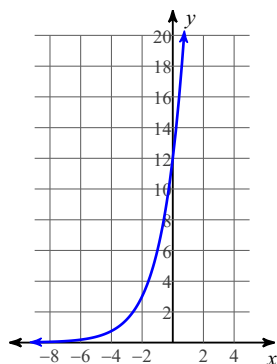
9)



10)



11)



12)  $\left\{ \frac{\pi}{12}, \frac{5\pi}{12}, \frac{13\pi}{12}, \frac{17\pi}{12} \right\}$

13)  $\left\{ \frac{\pi}{3}, \frac{2\pi}{3} \right\}$