**Answers:**

**Part A:** Are the numbers rational or irrational? Place the numbers in the appropriate box.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. $\frac{1}{8}$
 | 2. $-5$ | 3. $0$ | 4. $\frac{0}{100}$ |
| 5. $\sqrt{10}$ | 6. $\frac{5}{4}$ | 7. $\frac{-10}{5}$ | 8. $\sqrt{5}$ |

**RATIONAL**

$\frac{1}{8}$, $-5 , 0,$

$\frac{0}{100}, \frac{5}{4}, \frac{-10}{5 }$

**IRRATIONAL**

$$\sqrt{10}, \sqrt{5}$$

**Part B:** Express the following fractions as decimals and determine whether it is terminating or repeating.

|  |  |  |
| --- | --- | --- |
| 1. $\frac{16}{20}=0.8$TerminatingTerminatingTerminating | 2. $\frac{9}{20}=0.45$ | 3. $\frac{7}{8}=0.875$ |
| 4. $\frac{8}{11}=0.72…$Non-terminating and repeating | 5. $\frac{14}{11}=1.27… $Non-terminating and repeatingNon-terminating and repeating | 6. $\frac{10}{12}=0.833…$ |

**Part C:** Express the following decimals as fractions.

|  |  |  |
| --- | --- | --- |
| 1. $0.142$$$\frac{142}{1000}=\frac{71}{500}$$ | 1. $0.65$

$$\frac{65}{100}=\frac{13}{20}$$ | 3. $0.175$$$\frac{175}{1000}=\frac{7}{40}$$ |
| 1. $0.\overbar{07}$

$$x=0.\overbar{07}$$$$100x=0.\overbar{07} (100)$$$$100x=7.\overbar{07} $$$$100x=7.\overbar{07}$$ $x=0.\overbar{07}$ $99x=7$$$\frac{99x}{99}=\frac{7}{99}$$$$x=\frac{7}{99}$$$$0.\overbar{07}=\frac{7}{99}$$ | 1. $0.93…$

$$x=0.93…$$$$100x=0.93… (100)$$$$100x=93.93…$$ $100x=93.93…$ $x=0.93…$ $99x=93$$$\frac{99x}{99}=\frac{93}{99}$$$$x=\frac{93}{99}$$$$0.93…=\frac{93}{99}=\frac{31}{33}$$ | 6. $0.\overbar{612}$$$x=0.93…$$$$100x=0.93… (100)$$$$100x=93.93…$$ $100x=93.93…$ $x=0.93…$ $99x=93$$$\frac{99x}{99}=\frac{93}{99}$$$$x=\frac{93}{99}$$$$0.93…=\frac{93}{99}=\frac{31}{33}$$ |