



Determine if each problem when converted to a decimal will result in a repeating (R) or terminating (T) decimal.

Answers

A fraction will result in a **terminating** decimal if the prime factors of the simplified denominator contain only 2s or 5s (or only 2s and 5s).

$$\frac{6}{40} = \frac{3}{20} = 2 \times 2 \times 5 = 0.15$$

A fraction will result in a **repeating** decimal if the prime factors of the simplified denominator contain any prime factor other than 2 or 5.

$$\frac{5}{42} = 2 \times 3 \times 7 = 0.1\overline{190476}$$

1) $\frac{1}{9} =$ _____

2) $102 \div 12 =$ _____

3) $\frac{17}{30} =$ _____

4) $25 \div 3 =$ _____

5) $57 \div 27 =$ _____

6) $240 \div 25 =$ _____

7) $\frac{3}{28} =$ _____

8) $31 \div 5 =$ _____

9) $\frac{5}{16} =$ _____

10) $\frac{9}{13} =$ _____

11) $56 \div 6 =$ _____

12) $\frac{16}{21} =$ _____

13) $\frac{8}{15} =$ _____

14) $108 \div 20 =$ _____

15) $\frac{1}{23} =$ _____

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____



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A fraction will result in a **repeating** decimal if the prime factors of the simplified denominator contain any prime factor other than 2 or 5.

$$\frac{5}{42} = 2 \times 3 \times 7 = 0.11\overline{90476}$$

1) $\frac{1}{9} = \underline{3 \times 3}$

2) $102 \div 12 = \underline{2}$

3) $\frac{17}{30} = \underline{2 \times 3 \times 5}$

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14) $108 \div 20 = \underline{5}$

15) $\frac{1}{23} = \underline{23}$

Answers

1. R

2. T

3. R

4. R

5. R

6. T

7. R

8. T

9. T

10. R

11. R

12. R

13. R

14. T

15. R