



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) $10 \div 3 =$ _____

2) $\frac{1}{8} =$ _____

3) $\frac{16}{20} =$ _____

4) $102 \div 19 =$ _____

5) $\frac{2}{17} =$ _____

6) $288 \div 27 =$ _____

7) $\frac{11}{13} =$ _____

8) $\frac{6}{16} =$ _____

9) $196 \div 30 =$ _____

10) $\frac{21}{24} =$ _____

11) $101 \div 15 =$ _____

12) $243 \div 26 =$ _____

13) $45 \div 18 =$ _____

14) $84 \div 22 =$ _____

15) $144 \div 14 =$ _____

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.

$$\frac{5}{42} = 2 \times 3 \times 7 = 0.1190476$$

1) $10 \div 3 =$ 3

2) $\frac{1}{8} =$ $2 \times 2 \times 2$

3) $\frac{16}{20} =$ 5

4) $102 \div 19 =$ 19

5) $\frac{2}{17} =$ 17

6) $288 \div 27 =$ 3

7) $\frac{11}{13} =$ 13

8) $\frac{6}{16} =$ $2 \times 2 \times 2$

9) $196 \div 30 =$ 3×5

10) $\frac{21}{24} =$ $2 \times 2 \times 2$

11) $101 \div 15 =$ 3×5

12) $243 \div 26 =$ 2×13

13) $45 \div 18 =$ 2

14) $84 \div 22 =$ 11

15) $144 \div 14 =$ 7

Answers

1. R

2. T

3. T

4. R

5. R

6. R

7. R

8. T

9. R

10. T

11. R

12. R

13. T

14. R

15. R