



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) $31 \div 3 =$ _____

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

3) $107 \div 28 =$ _____

4) $\frac{4}{7} =$ _____

5) $\frac{5}{13} =$ _____

6) $\frac{7}{22} =$ _____

7) $153 \div 25 =$ _____

8) $271 \div 26 =$ _____

9) $99 \div 24 =$ _____

10) $\frac{7}{12} =$ _____

11) $\frac{1}{4} =$ _____

12) $166 \div 27 =$ _____

13) $\frac{7}{8} =$ _____

14) $\frac{7}{15} =$ _____

15) $\frac{16}{23} =$ _____

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.

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

Answers

1) $31 \div 3 =$ 3

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

3) $107 \div 28 =$ $2 \times 2 \times 7$

4) $\frac{4}{7} =$ 7

5) $\frac{5}{13} =$ 13

6) $\frac{7}{22} =$ 2×11

7) $153 \div 25 =$ 5×5

8) $271 \div 26 =$ 2×13

9) $99 \div 24 =$ $2 \times 2 \times 2$

10) $\frac{7}{12} =$ $2 \times 2 \times 3$

11) $\frac{1}{4} =$ 2×2

12) $166 \div 27 =$ $3 \times 3 \times 3$

13) $\frac{7}{8} =$ $2 \times 2 \times 2$

14) $\frac{7}{15} =$ 3×5

15) $\frac{16}{23} =$ 23

1. R

2. T

3. R

4. R

5. R

6. R

7. T

8. R

9. T

10. R

11. T

12. R

13. T

14. R

15. R