



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) $156 \div 16 =$ _____

2) $\frac{20}{29} =$ _____

3) $68 \div 25 =$ _____

4) $\frac{8}{11} =$ _____

5) $202 \div 20 =$ _____

6) $\frac{2}{3} =$ _____

7) $\frac{4}{23} =$ _____

8) $\frac{8}{9} =$ _____

9) $106 \div 30 =$ _____

10) $\frac{2}{6} =$ _____

11) $127 \div 26 =$ _____

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

13) $36 \div 17 =$ _____

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

15) $76 \div 7 =$ _____

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) $156 \div 16 =$ 2x2

2) $\frac{20}{29} =$ 29

3) $68 \div 25 =$ 5x5

4) $\frac{8}{11} =$ 11

5) $202 \div 20 =$ 2x5

6) $\frac{2}{3} =$ 3

7) $\frac{4}{23} =$ 23

8) $\frac{8}{9} =$ 3x3

9) $106 \div 30 =$ 3x5

10) $\frac{2}{6} =$ 3

11) $127 \div 26 =$ 2x13

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

13) $36 \div 17 =$ 17

14) $\frac{6}{22} =$ 11

15) $76 \div 7 =$ 7

Answers

1. T

2. R

3. T

4. R

5. T

6. R

7. R

8. R

9. R

10. R

11. R

12. T

13. R

14. R

15. R