



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).

$$6/40 = 3/20 = 2 \times 2 \times 5 = 0.15$$

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.

$$5/42 = 2 \times 3 \times 7 = 0.1190476$$

1) $20/25 =$ _____

2) $32 \div 5 =$ _____

3) $3/24 =$ _____

4) $21 \div 4 =$ _____

5) $1/2 =$ _____

6) $195 \div 26 =$ _____

7) $1/15 =$ _____

8) $120 \div 13 =$ _____

9) $83 \div 8 =$ _____

10) $31 \div 6 =$ _____

11) $2/17 =$ _____

12) $6/7 =$ _____

13) $5/28 =$ _____

14) $17/18 =$ _____

15) $309 \div 29 =$ _____

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) $\frac{20}{25} = \underline{5}$

2) $32 \div 5 = \underline{5}$

3) $\frac{3}{24} = \underline{2 \times 2 \times 2}$

4) $21 \div 4 = \underline{2 \times 2}$

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

6) $195 \div 26 = \underline{2}$

7) $\frac{1}{15} = \underline{3 \times 5}$

8) $120 \div 13 = \underline{13}$

9) $83 \div 8 = \underline{2 \times 2 \times 2}$

10) $31 \div 6 = \underline{2 \times 3}$

11) $\frac{2}{17} = \underline{17}$

12) $\frac{6}{7} = \underline{7}$

13) $\frac{5}{28} = \underline{2 \times 2 \times 7}$

14) $\frac{17}{18} = \underline{2 \times 3 \times 3}$

15) $309 \div 29 = \underline{29}$

Answers

1. T

2. T

3. T

4. T

5. T

6. T

7. R

8. R

9. T

10. R

11. R

12. R

13. R

14. R

15. R