Finding Repeating Decimals

Name:

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

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).

$\frac{6}{40} = \frac{3}{20} = 2\times2\times5 = 0.15$

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.

$\frac{5}{42} = 2\times3\times7 = 0.1\overline{190476}$

1) $\frac{10}{27} =$ _____

2) $127 \div 12 =$ _____

3) $91 \div 9 =$ _____

4) $240 \div 26 =$ _____

5) $38 \div 5 =$ _____

6) $\frac{6}{23} =$ _____

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

8) $\frac{6}{29} =$ _____

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

10) $87 \div 16 =$ _____

11) $165 \div 19 =$ _____

12) $\frac{5}{6} =$ _____

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

14) $222 \div 22 =$ _____

15) $23 \div 4 =$ _____

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

1-10	93	87	80	73	67	60	53	47	40	33
11-15	27	20	13	7	0					

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$\frac{5}{42} = 2\times3\times7 = 0.1\overline{190476}$

1) $\frac{10}{27}$ = 3×3×3

2) 127 ÷ 12 = 2×2×3

3) 91 ÷ 9 = 3×3

4) 240 ÷ 26 = 13

5) 38 ÷ 5 = 5

6) $\frac{6}{23}$ = 23

7) $\frac{9}{10}$ = 2×5

8) $\frac{6}{29}$ = 29

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

10) 87 ÷ 16 = 2×2×2×2

11) 165 ÷ 19 = 19

12) $\frac{5}{6}$ = 2×3

13) $\frac{6}{8}$ = 2×2

14) 222 ÷ 22 = 11

15) 23 ÷ 4 = 2×2

Answers

1. R
2. R
3. R
4. R
5. T
6. R
7. T
8. R
9. T
10. T
11. R
12. R
13. T
14. R
15. T

1-10	93	87	80	73	67	60	53	47	40	33
11-15	27	20	13	7	0					