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) $10 \div 3 =$ _____

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) $144 \div 14 =$ _____

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) $10 \div 3 =$ 3

2) $\frac{1}{8} =$ 2×2×2

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) $\frac{6}{16} =$ 2×2×2

9) $196 \div 30 =$ 3×5

10) $\frac{21}{24} =$ 2×2×2

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

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