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

2) $199 \div 29 =$ _____

3) $\frac{3}{24} =$ _____

4) $239 \div 25 =$ _____

5) $69 \div 12 =$ _____

6) $17 \div 7 =$ _____

7) $\frac{11}{15} =$ _____

8) $187 \div 30 =$ _____

9) $\frac{9}{23} =$ _____

10) $\frac{10}{18} =$ _____

11) $65 \div 20 =$ _____

12) $\frac{5}{8} =$ _____

13) $33 \div 4 =$ _____

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

15) $264 \div 26 =$ _____

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					

Finding Repeating Decimals Name: **Answer Key**

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

2) $199 \div 29 =$ 29

3) $\frac{3}{24} =$ 2×2×2

4) $239 \div 25 =$ 5×5

5) $69 \div 12 =$ 2×2

6) $17 \div 7 =$ 7

7) $\frac{11}{15} =$ 3×5

8) $187 \div 30 =$ 2×3×5

9) $\frac{9}{23} =$ 23

10) $\frac{10}{18} =$ 3×3

11) $65 \div 20 =$ 2×2

12) $\frac{5}{8} =$ 2×2×2

13) $33 \div 4 =$ 2×2

14) $\frac{2}{10} =$ 5

15) $264 \div 26 =$ 13

Answers

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

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