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) $\frac{1}{16} =$ _____

2) $7 \div 3 =$ _____

3) $34 \div 6 =$ _____

4) $\frac{1}{4} =$ _____

5) $218 \div 20 =$ _____

6) $259 \div 25 =$ _____

7) $302 \div 28 =$ _____

8) $155 \div 23 =$ _____

9) $119 \div 14 =$ _____

10) $268 \div 27 =$ _____

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

12) $\frac{6}{21} =$ _____

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

14) $\frac{16}{17} =$ _____

15) $71 \div 26 =$ _____

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) $\frac{1}{16} =$ 2×2×2×2

2) $7 \div 3 =$ 3

3) $34 \div 6 =$ 3

4) $\frac{1}{4} =$ 2×2

5) $218 \div 20 =$ 2×5

6) $259 \div 25 =$ 5×5

7) $302 \div 28 =$ 2×7

8) $155 \div 23 =$ 23

9) $119 \div 14 =$ 2

10) $268 \div 27 =$ 3×3×3

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

12) $\frac{6}{21} =$ 7

13) $\frac{7}{9} =$ 3×3

14) $\frac{16}{17} =$ 17

15) $71 \div 26 =$ 2×13

Answers

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

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