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).

$^{6}/_{40} = {}^{3}/_{20} = 2\times2\times5 = 0.15$

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.

$^{5}/_{42} = 2\times3\times7 = 0.1\overline{190476}$

1) $^{5}/_{23}$ = _____

2) $^{21}/_{25}$ = _____

3) $^{7}/_{13}$ = _____

4) 73 ÷ 30 = _____

5) 61 ÷ 7 = _____

6) $^{10}/_{24}$ = _____

7) 77 ÷ 8 = _____

8) $^{3}/_{4}$ = _____

9) $^{8}/_{9}$ = _____

10) 107 ÷ 15 = _____

11) 40 ÷ 6 = _____

12) $^{16}/_{29}$ = _____

13) 139 ÷ 22 = _____

14) 86 ÷ 26 = _____

15) $^{13}/_{21}$ = _____

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).

$^{6}/_{40} = {}^{3}/_{20} = 2\times2\times5 = 0.15$

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.

$^{5}/_{42} = 2\times3\times7 = 0.1\overline{190476}$

1) $^{5}/_{23} =$ 23

2) $^{21}/_{25} =$ 5×5

3) $^{7}/_{13} =$ 13

4) $73 \div 30 =$ 2×3×5

5) $61 \div 7 =$ 7

6) $^{10}/_{24} =$ 2×2×3

7) $77 \div 8 =$ 2×2×2

8) $^{3}/_{4} =$ 2×2

9) $^{8}/_{9} =$ 3×3

10) $107 \div 15 =$ 3×5

11) $40 \div 6 =$ 3

12) $^{16}/_{29} =$ 29

13) $139 \div 22 =$ 2×11

14) $86 \div 26 =$ 13

15) $^{13}/_{21} =$ 3×7

Answers

1. R
2. T
3. R
4. R
5. R
6. R
7. T
8. T
9. R
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					