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) $\frac{10}{25}$ = _____

2) $73 \div 11$ = _____

3) $31 \div 6$ = _____

4) $\frac{10}{26}$ = _____

5) $\frac{4}{24}$ = _____

6) $49 \div 17$ = _____

7) $248 \div 23$ = _____

8) $\frac{4}{14}$ = _____

9) $\frac{8}{18}$ = _____

10) $\frac{9}{21}$ = _____

11) $37 \div 4$ = _____

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

13) $112 \div 12$ = _____

14) $\frac{3}{27}$ = _____

15) $131 \div 30$ = _____

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) $\frac{10}{25} =$ 5

2) $73 \div 11 =$ 11

3) $31 \div 6 =$ 2×3

4) $\frac{10}{26} =$ 13

5) $\frac{4}{24} =$ 2×3

6) $49 \div 17 =$ 17

7) $248 \div 23 =$ 23

8) $\frac{4}{14} =$ 7

9) $\frac{8}{18} =$ 3×3

10) $\frac{9}{21} =$ 7

11) $37 \div 4 =$ 2×2

12) $\frac{7}{15} =$ 3×5

13) $112 \div 12 =$ 3

14) $\frac{3}{27} =$ 3×3

15) $131 \div 30 =$ 2×3×5

Answers

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