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) $41 \div 5 =$ _____

2) $^{3}/_{7} =$ _____

3) $^{15}/_{20} =$ _____

4) $^{8}/_{22} =$ _____

5) $280 \div 27 =$ _____

6) $175 \div 18 =$ _____

7) $98 \div 25 =$ _____

8) $^{12}/_{16} =$ _____

9) $291 \div 28 =$ _____

10) $^{1}/_{2} =$ _____

11) $23 \div 3 =$ _____

12) $^{8}/_{13} =$ _____

13) $53 \div 11 =$ _____

14) $^{5}/_{8} =$ _____

15) $^{7}/_{17} =$ _____

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) $41 \div 5 =$ 5

2) $^{3}/_{7} =$ 7

3) $^{15}/_{20} =$ 2×2

4) $^{8}/_{22} =$ 11

5) $280 \div 27 =$ 3×3×3

6) $175 \div 18 =$ 2×3×3

7) $98 \div 25 =$ 5×5

8) $^{12}/_{16} =$ 2×2

9) $291 \div 28 =$ 2×2×7

10) $^{1}/_{2} =$ 2

11) $23 \div 3 =$ 3

12) $^{8}/_{13} =$ 13

13) $53 \div 11 =$ 11

14) $^{5}/_{8} =$ 2×2×2

15) $^{7}/_{17} =$ 17

Answers

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

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