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) $^{8}/_{24}$ = _____

2) $^{4}/_{13}$ = _____

3) 78 ÷ 11 = _____

4) 159 ÷ 21 = _____

5) 62 ÷ 10 = _____

6) 18 ÷ 4 = _____

7) 273 ÷ 28 = _____

8) $^{24}/_{27}$ = _____

9) 24 ÷ 5 = _____

10) $^{15}/_{16}$ = _____

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

12) $^{8}/_{18}$ = _____

13) $^{6}/_{9}$ = _____

14) 157 ÷ 15 = _____

15) $^{6}/_{7}$ = _____

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					

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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) $^{8}/_{24}$ = 3

2) $^{4}/_{13}$ = 13

3) 78 ÷ 11 = 11

4) 159 ÷ 21 = 7

5) 62 ÷ 10 = 5

6) 18 ÷ 4 = 2

7) 273 ÷ 28 = 2×2

8) $^{24}/_{27}$ = 3×3

9) 24 ÷ 5 = 5

10) $^{15}/_{16}$ = 2×2×2×2

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

12) $^{8}/_{18}$ = 3×3

13) $^{6}/_{9}$ = 3

14) 157 ÷ 15 = 3×5

15) $^{6}/_{7}$ = 7

Answers

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