Fractions and decimals: 10 practice questions

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Name: _____ Date: _____

Attempt all questions and show your working. Suggested time: 15 to 20 minutes.

Section A: Consolidating (Questions 1-4)

Question 1

Write each fraction as a decimal.

(a) ¾

(b) ⅖

(c) 7/20

Question 2

Write each decimal as a fraction in simplest form.

(a) 0.6

(b) 0.25

(c) 0.125

Question 3

Write ⅓ as a recurring decimal, using dot or bar notation.

Question 4

Write 2/9 as a recurring decimal, using dot or bar notation.

Section B: Standard (Questions 5-10)

Question 5

Use short division to write ⅝ as a decimal.

Question 6

Write ⅚ as a recurring decimal.

Question 7

Write 4/11 as a recurring decimal.

Question 8

Use division to write 3/7 as a recurring decimal. Show which digits repeat.

Question 9

Without dividing, decide whether each fraction gives a terminating or a recurring decimal. Explain the rule you used.

(a) 7/16

(b) 5/12

(c) 9/40

(d) 4/15

Question 10

Write each decimal as a fraction or mixed number in simplest form.

(a) 0.85

(b) 2.36

(c) 0.045

Fractions and decimals: answers

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Question 1

Answer: (a) 0.75 (b) 0.4 (c) 0.35

Question 2

Answer: (a) ⅗ (b) ¼ (c) ⅛

Question 3

Answer: 0.333… (also written 0.333…)

Question 4

Answer: 0.222… (also written 0.222…)

Question 5

Answer: 0.625

Question 6

Answer: 0.8333… (that is, 0.8333…; also written 0.8333…)

Question 7

Answer: 0.3636… (also written 0.333…666…)

Question 8

Answer: 0.428571428571… (also written 0.444…2857111…); the six digits 428571 repeat

Question 9

Answer: (a) terminating (b) recurring (c) terminating (d) recurring. Rule: in simplest form, the decimal terminates only if the denominator has no prime factors other than 2 and 5 ($16 = 2^4$, $40 = 2^3 \times 5$; 12 has a factor of 3, 15 has a factor of 3).

Question 10

Answer: (a) 17/20 (b) 29/25 (or 59/25) (c) 9/200