Algebraic fractions: 10 practice questions

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Name: _____ Date: _____

Attempt all questions and show your working. Suggested time: 15 to 20 minutes. Assume no denominator in this test is zero.

Section A: Consolidating (Questions 1-4)

Question 1

Simplify:

(a) $6x/9$

(b) $10a/5a$

(c) $(4x^2)/(8x)$

Question 2

Simplify:

(a) $x/5 + 2x/5$

(b) $7a/9 - a/9$

(c) $3/x + 5/x$

Question 3

Simplify:

(a) $x/3 \times 6/5$

(b) $2/a \times a/4$

Question 4

Simplify:

(a) $x/4 \div 2$

(b) $3/x \div 6/x$

Section B: Standard (Questions 5-10)

Question 5

Simplify:

(a) $x/2 + x/3$

(b) $2a/5 - a/4$

(c) $3m/4 + m/6 - m/3$

Question 6

Simplify:

(a) $(x + 1)/(2) + (x - 3)/(5)$

(b) $(2y + 3)/(4) - (y - 1)/(3)$

(c) $(x + 4)/(3) - (x - 2)/(6)$

Question 7

Simplify:

(a) $2/x + 3/2x$

(b) $5/a - (1)/(a^2)$

(c) $4/3y + 1/6y$

Question 8

Simplify:

(a) $4x/9 \times 3/2x$

(b) $(5a^2)/(6) \times 3/10a$

(c) $2m/5 \times (15)/(m^2)$

Question 9

Simplify:

(a) $3x/4 \div 9x/8$

(b) $(a^2)/(6) \div a/3$

(c) $10/y \div (5)/(y^2)$

Question 10

Factorise the numerator, then simplify.

(a) $(3x + 6)/(3)$

(b) $(4a - 8)/(2a)$

(c) $(x^2 + 5x)/(x)$

(d) $(6m - 9)/(12)$

Algebraic fractions: answers

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Question 1

Answer: (a) 2x/3 (b) 2 (c) x/2

Question 2

Answer: (a) 3x/5 (b) 2a/3 (c) 8/x

Question 3

Answer: (a) 2x/5 (b) ½

Question 4

Answer: (a) x/8 (b) ½

Question 5

Answer: (a) 5x/6 (b) 3a/20 (c) 7m/12 ((9m + 2m - 4m)/(12))

Question 6

Answer: (a) (7x - 1)/(10) (b) (2y + 13)/(12) (c) (x + 10)/(6)

Question 7

Answer: (a) 7/2x (b) (5a - 1)/(a²) (c) 3/2y ((8 + 1)/(6y) = 9/6y)

Question 8

Answer: (a) ⅔ (b) a/4 (c) 6/m

Question 9

Answer: (a) ⅔ (b) a/2 (c) 2y

Question 10

Answer: (a) x + 2 (b) (2(a - 2))/(a) (also accept (2a - 4)/(a)) (c) x + 5 (d) (2m - 3)/(4)