A.APR.D.7: Complex Fractions 3

1 Express in simplest form: $\dfrac{\dfrac{2}{x}}{\dfrac{1}{2x}}$

8 Express in *simplest form*: $\dfrac{n - \dfrac{1}{n}}{\dfrac{1-n^2}{n}}$

2 Express as a fraction in *simplest form*: $\dfrac{\dfrac{1}{ab}}{\dfrac{1}{a} - \dfrac{1}{b}}$

9 Simplify: $\dfrac{\dfrac{1}{3} + \dfrac{1}{3x}}{\dfrac{1}{x} + \dfrac{1}{3}}$

3 Express in simplest form: $\dfrac{\dfrac{1}{a}}{\dfrac{1}{a} - \dfrac{1}{b}}$

10 Express in simplest form: $\dfrac{\dfrac{3}{4} + \dfrac{3}{x}}{\dfrac{1}{x} + \dfrac{1}{4}}$

4 Express $\dfrac{\dfrac{a}{b}}{\dfrac{1}{a} - \dfrac{1}{b}}$ in simplest form.

11 Express in simplest form: $\dfrac{1 + \dfrac{x}{y}}{\dfrac{1}{x} + \dfrac{1}{y}}$

5 Express in simplest form: $\dfrac{\dfrac{1}{2} + \dfrac{1}{x}}{\dfrac{1}{x}}$

12 In simplest form, express $\dfrac{x + y^{-1}}{y + x^{-1}}$ with no negative exponents.

6 Write in simplest form: $\dfrac{\dfrac{1}{x}}{1 + \dfrac{1}{x}}$

13 Express in simplest form: $\dfrac{1 - \dfrac{1}{x}}{\dfrac{1}{x^2} - \dfrac{1}{x}}$

7 Express in simplest form: $\dfrac{\dfrac{x-y}{y}}{\dfrac{1}{y} - \dfrac{1}{x}}$

14 Express $\dfrac{\dfrac{3}{x^2} + \dfrac{1}{x}}{1 - \dfrac{9}{x^2}}$ in simplest form.

15 Express in simplest form: $\dfrac{1+\dfrac{2}{x}}{x-\dfrac{4}{x}}$

22 Express in simplest form: $\dfrac{2+\dfrac{4}{x-2}}{\dfrac{2}{x-2}}$

16 Express in simplest form: $\dfrac{x-\dfrac{9}{x}}{2+\dfrac{6}{x}}$

23 Simplify: $\dfrac{\dfrac{x}{x-3}+\dfrac{4}{x}}{1-\dfrac{1}{3-x}}$

17 Express in simplest form: $\dfrac{x-\dfrac{1}{x}}{1+\dfrac{1}{x}}$

24 Simplify: $\dfrac{\dfrac{3a+b}{2a-b}-\dfrac{3a-b}{2a+b}}{\dfrac{2a}{4a^2-b^2}}$

18 Express in simplest form: $\dfrac{x-\dfrac{1}{x}}{1-\dfrac{1}{x}}$

25 Simplify: $\dfrac{1-\dfrac{3}{\cos x}}{\dfrac{9}{\cos^2 x}-1}$

19 Express $\dfrac{\dfrac{x}{3}-1}{\dfrac{x^2}{3}-3}$ in simplest form.

26 Simplify: $\left(1-\dfrac{\dfrac{a^2}{b^2}-\dfrac{b^2}{a^2}}{\dfrac{a^2}{b^2}+\dfrac{b^2}{a^2}}\right)\left(\dfrac{a^3}{b}+\dfrac{b^3}{a}\right)$

20 Express in simplest form: $\dfrac{\dfrac{1}{4x^2}-1}{2-\dfrac{1}{x}}$

27 Simplify: $\dfrac{1+\dfrac{a-x}{a+x}}{1-\dfrac{a-x}{a+x}}\div\dfrac{1+\dfrac{a^2-x^2}{a^2+x^2}}{1-\dfrac{a^2-x^2}{a^2+x^2}}$

21 Perform the indicated operations and express in

simplest form: $\dfrac{\dfrac{1}{x+h}-\dfrac{1}{x}}{h}$

28 Simplify: $\dfrac{a}{a^2-b^2}\times\dfrac{a-b-2b\left(\dfrac{a-b}{a+b}\right)}{\dfrac{a-b}{b}\div\dfrac{a+b}{a}}$

A.APR.D.7: Complex Fractions 3
Answer Section

1 ANS:
4

REF: 069505siii

2 ANS:

$$\frac{1}{b-a}$$

REF: 068608siii

3 ANS:

$$\frac{b}{b-a}$$

REF: 010209siii

4 ANS:

$$\frac{a^2}{b-a}$$

REF: 080312siii

5 ANS:

$$\frac{x+2}{2}$$

REF: 068004siii

6 ANS:

$$\frac{1}{x+1}$$

REF: 068508siii

7 ANS:
x

REF: 060012siii

8 ANS:
-1

REF: 068103siii

9 ANS:

$$\frac{x+1}{3+x}$$

REF: 069010siii

10 ANS:
3

REF: 019910siii

11 ANS:
x

REF: 089310siii

12 ANS:
$\dfrac{x}{y}$

REF: 010141siii

13 ANS:
$-x$

REF: 019740siii

14 ANS:
$\dfrac{1}{x-3}$

REF: 080014siii

15 ANS:
$\dfrac{1}{x-2}$

REF: 019016siii

16 ANS:
$\dfrac{x-3}{2}$

REF: 060210siii

17 ANS:
$x-1$

REF: 080213siii

18 ANS:
$x+1$

REF: 018404siii

19 ANS:
$\dfrac{1}{x+3}$

REF: 010012siii

20 ANS:
$$\frac{-(1+2x)}{4x}$$

REF: 068838siii

21 ANS:
$$-\frac{1}{x(x+h)}$$

REF: 088437siii

22 ANS:
x

REF: 018717siii

23 ANS:
$$\frac{x+6}{x}$$

REF: 089838siii

24 ANS:
$5b$

REF: 099801al

25 ANS:
$$\frac{-\cos x}{3+\cos x}$$

REF: 019539siii

26 ANS:
$$\frac{2b^3}{a}$$

REF: 039702al

27 ANS:
$$\frac{x}{a}$$

REF: 069702al

28 ANS:
$$\frac{b}{a+b}$$

REF: 019803al