Algebra 1-c

FINAL TEST

Put in simplest form.

1) $\dfrac{12a^2b^2c^3(x-y)}{18ab^2c(x-y)}$

2) $\dfrac{26m(x+y)(x-y)}{36m^2(x+y)}$

3) $\dfrac{(r-s)(r+2s)}{(r-s)^2(r+s)}$

4) $\dfrac{x^2+3x-18}{x^2-8x+15}$

Multiply and put in lowest terms.

5) $\dfrac{5m+10}{8m-4} \cdot \dfrac{4m-2}{3m+6}$

6) $\dfrac{a^2-b^2}{(a+b)^2} \cdot \dfrac{ac+bc}{ac-bc}$

Divide and put answers in lowest terms.

7) $\dfrac{(2r+s)^2}{8r-4s} \div \dfrac{4r^3-rs^2}{8rs-4s^2}$

8) $\dfrac{x^2-x-42}{x^2+5x-84} \div \dfrac{x^2+2x-8}{x^2+10x-24}$

Find the least common multiple.

9) $4p^2-1$ and $2p+1$

10) x^2-y^2 and $x^2-2xy+y^2$

Change to fractions with common denominators.

11) $\dfrac{x^2-y^2}{(2x-3y)^2}$; $\dfrac{x+2y}{10x-15y}$

12) $\dfrac{m}{(2m-3n)^2}$; $\dfrac{n}{4m^2-9n^2}$

Add or subtract these fractions.

13) $\dfrac{x-2}{(x+5)^2}$ -- $\dfrac{x+2}{x^2-25}$

14) $\dfrac{2m-3}{4m-2}$ + $\dfrac{m-9}{3m+6}$

Add or subtract as indicated.

15) $3 - \dfrac{a - 5x}{a - 2x}$

16) $5 - \dfrac{a^2 - 19x^2}{a^2 - 4x^2}$

17) $2 + \dfrac{2S^3}{r^3 - s^3}$

Multiply and divide.

18) $\left(3 + \dfrac{5x - 1}{x^2 - 9}\right) \div \left(3 + \dfrac{2}{x - 3}\right)$

19) $\left(1 + \dfrac{2ax + 2a^2}{x^2 - a^2}\right)\left(2 - \dfrac{x + 4a}{2x + 2a}\right)$

20) $\left(1 - \dfrac{8x}{x^2 + 4x + 3}\right)\left(2 + \dfrac{8}{x - 1}\right) \div \left(3 + \dfrac{6}{x - 5}\right)$

Simplify these complex fractions.

21) $\dfrac{1 + \dfrac{a}{b}}{1 - \dfrac{a}{b} + \dfrac{a^2}{b^2}}$

22) $\dfrac{2 - \dfrac{3b}{a}}{\dfrac{2a}{3b} - \dfrac{3b}{2a}}$

Solve these equations.

23) $\dfrac{5s + 6}{2s} - \dfrac{7s - 1}{5s} = \dfrac{-1}{2}$

24) $\dfrac{28}{3c} - \dfrac{14 - 2c}{5c} = \dfrac{4}{3}$

25) $\dfrac{6a - 5}{2} = \dfrac{9a + 5}{3} - \dfrac{25}{18a}$

26) $\dfrac{z - 8}{2z} + \dfrac{3z - 6}{3z} = 21/2$

27)   There are three consecutive integers. One fifth of the largest is 1/4 of (the smallest number minus 1). What are the numbers?