

What Is an Algebra Teacher's Favorite Breakfast?

Simplify the expression. Look for the letter of the answer in the string of letters near the bottom of the page and cross it out each time it appears. Then write the remaining letters in the space at the bottom of the page.



1 $\frac{x^2 - 49}{6x^3} \cdot \frac{8x^2}{x^2 + 7x}$

2 $\frac{x - 4}{x^3 + 4x^2} \cdot \frac{9x^2 + 36x}{4 - x}$

3 $\frac{2x^2 - 200}{4x^2 - 40x} \cdot \frac{7x + 21}{x^2 + 7x - 30}$

4 $\frac{6x^5}{x^2 - 11x + 18} \div \frac{15x^2}{x^2 + 7x - 18}$

5 $\frac{25 - x^2}{5x^4} \div \frac{x - 5}{x^4 + 5x^3}$

6 $\frac{x^2 - 5x - 24}{8x^2 + 8x} \div (x^2 + 6x + 9)$

7 $\frac{a^2 - b^2}{ab^3} \cdot \frac{a^4b^2}{a^2b - ab^2}$

8 $\frac{a^2 - 9ab + 20b^2}{a^2 + 8ab + 7b^2} \cdot \frac{a + 7b}{a^2 - 8ab + 16b^2}$

9 $\frac{10 + 3a - a^2}{60b} \cdot \frac{75b^5}{5a^2b + 10ab}$

10 $\frac{a^2 - ab - 12b^2}{12} \div \frac{2a^2 + 7ab + 3b^2}{16a + 8b}$

11 $\frac{2b - 9a}{81a^2 - 4b^2} \div \frac{1}{9a + b}$

12 $\frac{a^4 - b^4}{a^4 + a^2b^2} \div \frac{a^2 + 2ab + b^2}{a^3}$

Answers 1-6

U $\frac{7(x + 3)}{2x(x - 3)}$

O $\frac{x - 8}{8x + 3}$

A $\frac{-x + 5}{x - 5}$

F $\frac{2x^3(x + 9)}{5(x - 9)}$

J $\frac{4(x - 7)}{3x^2}$

D $\frac{7(x - 3)}{4x(x + 3)}$

R $\frac{x - 8}{8x(x + 1)(x + 3)}$

L $\frac{-9}{x}$

C $\frac{2x^2(x - 9)}{5(x + 9)}$

P $\frac{-(x + 5)^2}{5x}$

Answers 7-12

B $\frac{-9a + b}{a + b}$

G $\frac{a - 5b}{(a + b)(a - 4b)}$

S $\frac{2(a - 4b)}{3}$

C $\frac{b^2(a - 5)}{2a^2}$

T $\frac{a(a - b)}{a + b}$

H $\frac{a^2(a + b)}{b^2}$

N $\frac{a^5(a + b)}{b}$

E $\frac{-9a + b}{9a + 2b}$

I $\frac{-b^3(a - 5)}{4a}$

X $\frac{a - b}{(a + b)^2}$

S T B U H E A T L C R O F T E N A T J N U P E D I X R G G S

●●●●● answer to puzzle: ●●●●●

Just Before Giving Birth to Her First Child, Why Did Mrs. Plum Yell: "Shouldn't, Couldn't, Wouldn't, Didn't, Can't"?

Simplify the expression, then find your answer in the answer column. Write the two letters next to the answer in the two boxes above the exercise number at the bottom of the page.

1. $\frac{4u+1}{2u} + \frac{5u-2}{7u^2}$

2. $\frac{20}{u^2-16} + \frac{3}{u+4}$

3. $\frac{u}{u+5} + \frac{2u}{u^2+8u+15}$

4. $\frac{15}{9u+2} + 4$

Answers 1-4

RE $\frac{u^2-7}{(u+3)(u+5)}$ **SK** $\frac{28u^2+15u-8}{14u^2}$

AS $\frac{3u+8}{(u+4)(u-4)}$ **SH** $\frac{36u+23}{9u+2}$

TO $\frac{20u+8}{9u+2}$ **NT** $\frac{28u^2+17u-4}{14u^2}$

CT $\frac{u}{u+3}$ **OL** $\frac{6u+11}{(u+4)(u-4)}$

5. $\frac{11a-2}{a^2-4a-12} - \frac{8}{a-6}$

6. $\frac{5}{a-8} - \frac{4}{3a+1}$

7. $\frac{10}{a-3} + \frac{a+8}{2a+3}$

8. $\frac{a}{4a^2-1} + \frac{4}{2a-1} + 2$

Answers 5-8

NS $\frac{11a+37}{(a-8)(3a+1)}$ **IN** $\frac{5a+12}{(a+2)(a-6)}$

ER $\frac{a^2+22a+9}{(a-3)(2a+3)}$ **NG** $\frac{8a^2+9a+2}{(2a+1)(2a-1)}$

VI $\frac{3}{a+2}$ **SE** $\frac{4a^2+8a+3}{(2a+1)(2a-1)}$

ED $\frac{9a+40}{(a-8)(3a+1)}$ **EW** $\frac{a^2+25a+6}{(a-3)(2a+3)}$

9. $\frac{1}{x^2-8x+7} - \frac{x+7}{x-1}$

10. $\frac{x}{x-4} + \frac{18}{x^2+x-20} + \frac{2}{x+5}$

11. $\frac{9x}{3x-2} - \frac{3x-2}{x+1}$

12. $\frac{3x^2+7x}{x^2+8x-9} - \frac{2x}{x+9}$

Answers 9-12

SE $\frac{12x-5}{(3x-2)(x+1)}$ **RA** $\frac{x}{x-1}$

OO $\frac{x^2+1}{x+9}$ **IO** $\frac{-x^2+50}{(x-1)(x-7)}$

HA $\frac{x+2}{x-4}$ **LO** $\frac{x+1}{x+5}$

RA $\frac{-2x^2+51}{(x-1)(x-7)}$ **CO** $\frac{21x-4}{(3x-2)(x+1)}$

4	7	2	10	5	8	11	1	12	3	9	6
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What Law Firm Is Famous For Sneaky Legal Tricks?

Solve the equation, then find your answer. Write the letter of the answer in each box with the exercise number. If the answer has a \bullet , shade in the box instead of writing a letter in it.

1 $\frac{x}{5} + \frac{x+4}{3} = 4$

2 $\frac{a}{7} - \frac{a-5}{2} = 3$

Answers

S -4

O $\frac{7}{2}$

3 $\frac{3}{2y} + \frac{3}{5y} = \frac{7}{10}$

4 $\frac{2}{3c} = \frac{5+c}{4c} - \frac{5}{12}$

I $\frac{14}{3}$

$-\frac{10}{7}$

Y 16

5 $\frac{n}{3} - \frac{n-11}{6} = \frac{9}{2}$

6 $\frac{x-8}{5x} + \frac{3}{10} = \frac{x+2}{4x}$

M 5

W 8

R $-\frac{18}{5}$

7 $\frac{5w}{2w+8} - \frac{1}{w+4} = 1$

8 $\frac{4}{5} + \frac{b}{b-2} = \frac{3b+8}{5b-10}$

A 3

H 7

9 $\frac{2}{x+3} + \frac{7}{x-3} = \frac{2x+5}{x^2-9}$

10 $\frac{t+9}{t^2-4t} - \frac{3}{t} = \frac{1}{t-4}$

T $\frac{10}{3}$

C $-\frac{7}{5}$

E $\frac{21}{2}$

11 $\frac{10k}{3k+15} = \frac{4}{k+5} + 2$

12 $\frac{x+3}{x} - \frac{x+1}{x+4} = \frac{5}{x}$

N $\frac{8}{3}$

12

D $\frac{42}{5}$

6 11 12 11 5 9 2 10 11 11 7 10 3 1 9 3 8 6 9 10 4 12 11

What Is ORANGE and Sounds Like A PARROT?

Solve the problem, then circle your answer. When you finish, arrange the letters of the correct answers in order, from the letter of the answer that represents the LEAST TIME to the letter of the answer that represents the MOST TIME. Write the letters in this order in the boxes at the bottom of the page.

- Ken can paint a room in 5 hours, and Barbie can paint it in 4 hours. How long will it take if they work together?
- Pump A can fill a storage tank in 6 hours. Pump B can fill the tank in 8 hours. How long will it take to fill the tank using both pumps?
- The master elf can build 1000 toys in 4 days. An apprentice elf takes 7 days to do the same job. How long will it take if they work together?
- To do a job alone, it would take Huey 6 hours, Louie 9 hours, and Dewey 12 hours. How long would it take if they all work together?
- Bert and Ernie working together can rake a lawn in 3 hours. Bert can do the job alone in 5 hours. How long would it take Ernie to rake the lawn alone?
- Pipe A can empty a pool in 8 hours. If Pipe B is also used, the pool can be emptied in 5 hours. How long would it take Pipe B, by itself, to empty the pool?
- Crew A can tunnel through a mountain in 30 days. If Crew B starts from the other side at the same time, the tunnel can be completed in 18 days. How long would it take Crew B working alone?

- Answers**
- I $8\frac{1}{4}$ h
 - B 2 h
 - R $13\frac{1}{3}$ h
 - T 45 d
 - C $2\frac{10}{13}$ h
 - D 15 h
 - N $3\frac{1}{6}$ d
 - R $7\frac{1}{2}$ h
 - A $2\frac{2}{9}$ h
 - E $3\frac{1}{3}$ h
 - O $2\frac{6}{11}$ d
 - Y 48 d
 - R $1\frac{7}{9}$ h
 - A $3\frac{3}{7}$ h

Letter of
"least time"
correct answer

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Letter of
"most time"
correct answer

Extra: Rex can fill his swimming pool in 3 hours or empty it in 10 hours. How long would it take to fill the pool if he accidentally leaves the drain open at the same time?