Name_____ Period_____

1st Test Review

State the expression without parentheses.

1) $2\ (x + 5)$

2. $4\ (3x - 3)$

3. $5\ (3x - 4)$

4. $3\ (4x + 2)$

5. $3\ (7x - 3\ )$

6. $2(\ 3x + 6)$

Name_____

## SIMPLIFYING EXPRESSIONS #1

**Directions**: For each expression below, simplify the expression by combining *like terms*. Any two terms can be added/subtracted as long as they contain the same variable(s) and the same exponents. Terms that have different variables or exponents must be kept separated. Write the simplified expression on the line provided.

Examples: $5x+2y+8x=$ $13x+2y$ $5x^2+2y+8x+2x^2=$ $7x^2+8x+2y$

1) $13x+3y+2x=$ _____

2) $4x^2+3y+5x+6x^2=$ _____

3) $7y+4y+5x=$ _____

4) $2y^2+6y+4y+10y^2=$ _____

5) $9x+y-3x=$ _____

6) $x^2+8y-4y+8x^2=$ _____

Solve the fraction problem and reduce the answer to simplest form.

1. $\frac{1}{4} + \frac{3}{7} =$
2. $\frac{1}{7} + \frac{1}{5} =$
3. $\frac{1}{7} + \frac{2}{3} =$
4. $\frac{1}{6} + \frac{1}{7} =$
5. $\frac{2}{8} + \frac{3}{7} =$

Solve by subtraction.

$\frac{2}{3} - \frac{1}{3} =$

$\frac{2}{6} - \frac{1}{6} =$

$\frac{5}{4} - \frac{2}{3} =$

$\frac{3}{2} - \frac{4}{3} =$

$\frac{4}{5} - \frac{2}{3} =$

Solve the fraction problem and reduce the answer to simplest form.

(1) $\frac{6}{12} \times \frac{1}{3} =$

(2) $\frac{3}{15} \times \frac{9}{21} =$

(3) $\frac{3}{18} \times \frac{6}{12} =$

(4) $\frac{1}{18} \times \frac{1}{12} =$

(5) $\frac{12}{18} \times \frac{1}{9} =$

Divide

(6) $\frac{4}{7} \div \frac{2}{3} =$

(7) $\frac{6}{7} \div \frac{3}{8} =$

(8) $\frac{7}{9} \div \frac{2}{5} =$

(9) $\frac{5}{6} \div \frac{6}{10} =$

(10) $\frac{6}{7} \div \frac{4}{6} =$

(11) $\frac{5}{6} \div \frac{2}{3} =$

Solve.

(1) $66 - 2^2 + 4 =$ ____

(2) $4 \times ( 7^2 - 1 ) =$ ____

(3) $58 - 5^2 + 5 =$ ____

(4) $1 \times 4^2 + 84 =$ ____

(5) $18 - 3^2 + 1 =$ ____

(6) $7 \times 9^2 + 76 =$ ____

Solve.

 $4x - 3 = 21$

 $21 = x + 5$

 $8 = 3 + \frac{x}{4}$

 $9 + x = 19$

 $7x = 84$

Review

Evaluate (plug in values for x and y)

1. $x - 16 \; when \; x = 20$

2. $x - 16 \; when \; x = 12$

3 $.8 - 3y \; when \; y = 2$

4. $8x + 3 + x \;\; when \; x = 2$

5. $3x^2 + 4$ when x = 3

6. $2x^2 - x$ when x = 4

Algebra 1 Name_____

# Assignment

Date_____ Period____

**Solve each equation.**

1) $2x + 3 = 17$

2) $\frac{x}{2} + 3 = 3$

3) $-5 + \frac{v}{2} = -8$

4) $-4 - 5n = 1$

5) $4 + \frac{k}{10} = 5$

6) $-3 + 3b = -18$

7) $-3m + 3 = 27$

8) $1 - 2x = 3$

8 10

Name Answers Period

1st Test Review

State the expression without parentheses.

1) $2\,(x+5)$

$2x+10$

2. $4\,(3x-3)$

$12x-12$

3. $5\,(3x-4)$

$15x-20$

4. $3\,(4x+2)$

$12x+6$

5. $3\,(7x-3)$

$21x-9$

6. $2(3x+6)$

$6x+12$

Name Answers

## SIMPLIFYING EXPRESSIONS #1

**Directions**: For each expression below, simplify the expression by combining *like terms*. Any two terms can be added/subtracted as long as they contain the same variable(s) and the same exponents. Terms that have different variables or exponents must be kept separated. Write the simplified expression on the line provided.

Examples: $5x+2y+8x=$ $13x+2y$ $\qquad$ $5x^2+2y+8x+2x^2=$ $7x^2+8x+2y$

1) $13x+3y+2x=$ $15x+3y$

2) $4x^2+3y+5x+6x^2=$ $10x^2+5x+3y$

3) $7y+4y+5x=$ $11y+5x$

4) $2y^2+6y+4y+10y^2=$ $12y^2+10y$

5) $9x+y-3x=$ $6x+y$

6) $x^2+8y-4y+8x^2=$ $9x^2+4y$

# Answers

Solve the fraction problem and reduce the answer to simplest form.

| | | | | | |
|---|---|---|---|---|---|
| ① | $(\frac{7}{7})\frac{1}{4}$ | + | $\frac{3}{7}(\frac{4}{4})$ | = | $\frac{7}{28} + \frac{12}{28} = \frac{19}{28}$ |
| ② | $(\frac{5}{5})\frac{1}{7}$ | + | $\frac{1}{5}(\frac{7}{7})$ | = | $\frac{5}{35} + \frac{7}{35} = \frac{12}{35}$ |
| ③ | $(\frac{3}{3})\frac{1}{7}$ | + | $\frac{2}{3}(\frac{7}{7})$ | = | $\frac{3}{21} + \frac{14}{21} = \frac{17}{21}$ |
| ④ | $(\frac{7}{7})\frac{1}{6}$ | + | $\frac{1}{7}(\frac{6}{6})$ | = | $\frac{7}{42} + \frac{6}{42} = \frac{13}{42}$ |
| ⑤ | $(\frac{7}{7})\frac{2}{8}$ | + | $\frac{3}{7}(\frac{8}{8})$ | = | $\frac{14}{56} + \frac{24}{56} = \frac{38}{56} \div (\frac{2}{2}) \frac{19}{28}$ |

Answers

Solve by subtraction.

$\frac{2}{3} - \frac{1}{3} =$ $\boxed{\frac{1}{3}}$

$\frac{2}{6} - \frac{1}{6} =$ $\boxed{\frac{1}{6}}$

$\left(\frac{3}{3}\right)\frac{5}{4} - \frac{2}{3}\left(\frac{4}{4}\right) =$ $\frac{15}{12} - \frac{8}{12} = \boxed{\frac{7}{12}}$

$\left(\frac{3}{3}\right)\frac{3}{2} - \frac{4}{3}\left(\frac{2}{2}\right) =$ $\frac{9}{6} - \frac{8}{6} = \boxed{\frac{1}{6}}$

$\left(\frac{3}{3}\right)\frac{4}{5} - \frac{2}{3}\left(\frac{5}{5}\right) =$ $\frac{12}{15} - \frac{10}{15} = \boxed{\frac{2}{15}}$

Answers

Solve the fraction problem and reduce the answer to simplest form.

| | |
|---|---|
| ① $\frac{1}{2}\frac{\cancel{8}}{\cancel{12}} \times \frac{1}{3} =$ | $\frac{1}{2} \cdot \frac{1}{3} = \boxed{\frac{1}{6}}$ |
| ② $\frac{1}{5}\frac{\cancel{3}}{\cancel{15}} \times \frac{\cancel{8}}{\cancel{21}}\frac{3}{7} =$ | $\frac{3 \div 3}{15 \div 3} = \boxed{\frac{1}{5}} \cdot \frac{21 \div 3}{21 \div 3} = \boxed{\frac{3}{7}} = \boxed{\frac{3}{35}}$ |
| ③ $\frac{3}{18} \times \frac{6}{12} =$ | $\frac{3(\div 3)}{18(\div 3)} = \boxed{\frac{1}{6}} \cdot \frac{6(\div 6)}{12(\div 6)} = \boxed{\frac{1}{2}} = \boxed{\frac{1}{12}}$ |
| ④ $\frac{1}{18} \times \frac{1}{12} =$ | $\frac{1}{18} \cdot \frac{1}{12} = \boxed{\frac{1}{216}}$ |
| ⑤ $\frac{12}{18} \times \frac{1}{9} =$ | $\frac{12}{18}\left(\frac{\div 6}{\div 6}\right) = \frac{2}{3} \cdot \frac{1}{9} = \boxed{\frac{2}{27}}$ |

answers

Divide

(6) $\frac{4}{7} \div \frac{2}{3} =$ $\frac{2\cancel{4}}{7} \cdot \frac{3}{\cancel{2}1} = \boxed{\frac{6}{7}}$

(7) $\frac{6}{7} \div \frac{3}{8} =$ $\frac{2\cancel{6}}{7} \cdot \frac{8}{\cancel{3}1} = \boxed{\frac{16}{7}}$

(8) $\frac{7}{9} \div \frac{2}{5} =$ $\frac{7}{9} \cdot \frac{5}{2} = \boxed{\frac{35}{18}}$

(9) $\frac{5}{6} \div \frac{6}{10} =$ $\frac{5}{\cancel{6}} \cdot \frac{\cancel{10}}{\cancel{6}} \frac{5}{3} = \boxed{\frac{25}{18}}$

(10) $\frac{6}{7} \div \frac{4}{6} =$ $\frac{\cancel{6}}{7} \cdot \frac{\cancel{6}}{\cancel{4}} \frac{3}{2} = \frac{18}{14} = \boxed{\frac{9}{7}}$

(11) $\frac{5}{6} \div \frac{2}{3} =$ $\frac{5}{2\cancel{6}} \cdot \frac{\cancel{3}1}{2} = \boxed{\frac{5}{4}}$

Solve.

answers

Write out first step, then do in calculator

(1) $66 - 2^2 + 4 =$ 66

$66 - 4 + 4$

(2) $4 \times (7^2 - 1) =$ 192

$4(49-1)$

$4(48)$

(3) $58 - 5^2 + 5 =$ 38

$58 - 25 + 5$

(4) $1 \times 4^2 + 84 =$ 100

$1 \times 16 + 84$ =

$16 + 84$

(5) $18 - 3^2 + 1 =$ 10

$18 - 9 + 1$

(6) $7 \times 9^2 + 76 =$ 743

$7 \times 81 + 76$

$567 + 176 =$

Answers.

Solve

$4x - 3 = 21$

$+3 \quad +3$

$\frac{4x}{4} = \frac{24}{4}$

$x = 6$

$21 = x + 5$

$-5 \quad -5$

$16 = x$

$8 = 3 + \frac{x}{4}$

$-3 \quad -3$

$4 \cdot 5 = \frac{x}{4} \cdot 4$

$20 = x$

$9 + x = 19$

$-9 \quad -9$

$x = 10$

$\frac{7x}{7} = \frac{84}{7}$

$x = 12$

Answers

Review

Write out first step
Then use calculator

Evaluate (plug in values for x and y)

1. $x - 16$ *when* $x = 20$

$20 - 16 = \boxed{4}$

2. $x - 16$ *when* $x = 12$

$12 - 16 = \boxed{-4}$

3. $8 - 3y$ *when* $y = 2$

$8 - 3(2)$

$8 - 6 = \boxed{2}$

4. $8x + 3 + x$ *when* $x = 2$

$8(2) + 3 + 2$

$16 + 3 + 2 = \boxed{21}$

5. $3x^2 + 4$ when $x = 3$

$3(3)^2 + 4$

$3(9) + 4$

$27 + 4 = \boxed{31}$

6. $2x^2 - x$ when $x = 4$

$2(4)^2 - 4$

$2(16) - 4$

$32 - 4 = \boxed{28}$

Algebra 1 Answers Name_____ ID: 1

Assignment Date_____ Period____

**Solve each equation.**

1) $2x + 3 = 17$

$-3 \quad -3$

$2x = 14$

$\boxed{x = 7}$

2) $\frac{x}{2} + 3 = 3$

$-3 \quad -3$

$\frac{x}{2} = 0$

$\boxed{x = 0}$

3) $-5 + \frac{v}{2} = -8$

$+5 \quad +5$

$2 \cdot \frac{v}{2} = -3 \cdot 2$

$\boxed{v = -6}$

4) $-4 - 5n = 1$

$+4 \quad +4$

$\frac{-5n}{-5} = \frac{5}{-5}$

$\boxed{n = -1}$

5) $4 + \frac{k}{10} = 5$

$-4 \quad -4$

$10 \cdot \frac{k}{10} = 1 \cdot 10$

$\boxed{k = 10}$

6) $-3 + 3b = -18$

$+3 \quad +3$

$\frac{3b}{3} = \frac{-15}{3}$

$\boxed{b = -5}$

7) $-3m + 3 = 27$

$-3 \quad -3$

$\frac{-3m}{-3} = \frac{24}{-3}$

$\boxed{m = -8}$

8) $1 - 2x = 3$

$-1 \quad -1$

$\frac{-2x}{-2} = \frac{2}{-2}$

$\boxed{x = -1}$