

(44 total problems-Parts A & B)

ALGEBRA I

Topics :

Operations

Solving for x

Proportions

Like Terms

Scientific Notation

Part A

Perform the given operations

1.) $3 + (5 - 2) =$

2.) $20 + 5 \cdot 3 - 1 =$

3.) $14 - 3(4 + 1) =$

4.) $3 + 4 \cdot \frac{1}{2} - 2(2 - 4) =$

5.) $3 + [3 - (4 + 1) + 2] =$

6.) $-8 - [-2 + (5 - 2) + 3 \cdot 3] =$

7.) $30 \div (5 + 1) =$

8.) $30 \div 5 + 10 =$

9.) $4 - (3 + 2 \div 2) =$

10.) $5 + (6 + 2 \cdot 3 - 12 \div 6) =$

$$11.) 2 + 3 - 4 =$$

$$12.) 4 - 9 + 10 - 7 =$$

$$13.) \frac{1}{3} + 9 - 8 =$$

$$14.) \frac{2}{3} + \frac{1}{3} =$$

$$15.) \frac{2}{3} + \frac{1}{4} =$$

$$16.) \frac{2}{3} \cdot \frac{1}{4} =$$

$$17.) \frac{2}{5} \div \frac{1}{2} =$$

$$18.) \frac{1}{3} \div 3 =$$

$$19.) \frac{1}{3} + 3 =$$

$$20.) \frac{2}{10} \cdot \frac{1}{4} =$$

Solve for x

$$21.) x + 1 = 3$$

$$22.) x - 1 = 4$$

$$23.) 2x - 2 = 4$$

$$24.) 3x + 5 = 8$$

$$25.) 2(x - 4) = 6$$

$$26.) \frac{1}{2}(2x - 4) = 2$$

$$27.) \frac{x}{2} = 1$$

$$28.) \frac{x}{2} = \frac{1}{3}$$

$$29.) \frac{x}{3} = \frac{1}{3}$$

$$30.) \frac{1}{4} = \frac{2}{x}$$

$$31.) \frac{x+1}{4} = \frac{2}{3}$$

$$32.) \frac{4-x}{2} = \frac{1}{2}$$

33.) A fridge goes on a defrost cycle for 1 hour out of every 14 hours. How many hours is this each week?

34.) The ratio of full seats to empty seats in an auditorium is 5 to 2. If there are 50 empty seats, what is the seating capacity of this auditorium?

35.) A car travels 10 km on 4 liters of gas. How many liters of gas are needed to travel 45 km?

36.) There are 6 girls in a group of 10 runners. How many girls are in a group of 25 runners?

Part B:

1. Factor using the GCF: $36+18y$

Combine or Collect Like Terms:

2. $5y-2x+6y-2y$

3. $m-4m +2n -11n$

Simplify: (by combining like terms)

4. $4y - (3y+4)$

5. $4d -3(5c-2d +3)$

6. $5(2x+3) - 4 - 2(x -1)$

7. Write 3.78×10^{-7} using standard notation

8. Write **.00031** using scientific notation