

SHOW ALL WORK to receive full credit.

Simplify the following expressions using positive and negative integers. (2 points each)

1.
$$\frac{6x}{-15x}$$

2. $5x - 8 + 19 - 19x$

3. $-3(5x - 7) - 8 + 12x$

Use the percent Formula $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$ to solve the following. Round money answers to the nearest cent (hundredth), all others to the nearest tenth. (2 points each)

4. 117 is _____% of 260

5. 72 is 32% of _____

6. 33% of 150 is _____

7. 135 out of 150 is _____%

Solve the following equations. Answers must be reduced to lowest terms, but may be left as either improper fractions or mixed numbers. (3 points each)

8. $7x + 6 = -18$

9. $12x - 16 = 7x + 32$

10. $-3(4x + 8) - (x - 6) = 4(-2x + 3)$

11. $\frac{5x-6}{4} = \frac{-3x+5}{-3}$

Answer each of the following applications to Mental Percents questions. Answers must be rounded to the nearest cent (hundredths). (4 points)

12. Mrs. Freeman bought Christmas tree lights for her beautiful tree, so she went to Osh Hardware because they were having a 30% off sale. If a box of lights were originally marked 35.00, what will she have to pay after the discount?

Amount of Discount: _____

Sales Price: _____

Find the percent of increase or decrease. Round % to the nearest tenth if necessary. (3 points each)

13. Mr. Loken received a Toro gas blower that his children bought him for his birthday yesterday. They went to Lowe's to find the blower originally sold for \$179.00, but were on sale for \$139.00. Answer the following.

Was this an increase or decrease? _____ How Much? _____

What is the % of increase or decrease? _____

14. The cost of a barrel of oil went from \$83 per barrel to \$105 a barrel. Answer the following.

Was this an increase or decrease? _____ How Much? _____

What is the % of increase or decrease? _____

Reduce the following fractions. (2 points each)

15. $\frac{12}{30} =$

16. $\frac{12}{16} =$

Change the following mixed fractions to improper fractions. (2 points each)

17. $3\frac{2}{3} =$

18. $6\frac{5}{7} =$

Multiply the following fractions. Answers must be reduced to lowest terms, but may be left as either improper fractions or mixed numbers. (2 points each)

19. $\frac{3}{4} \cdot \frac{12}{9} =$

20. $4\frac{2}{5} \cdot \frac{5}{12} =$

21. $24 \cdot \frac{3}{4} =$

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Solve the following equations. Fraction answers must be reduced to lowest terms, but may be left as either improper fractions or mixed numbers. (4 points each)

1. $7x = 10$

2. $6x = 9$

3. $8x = 4$

4. $12x = 10$

5. $-3x = 13$

6. $8x = -20$

7. $-4x = -29$

8. $6x = -22$

9. $12x = -8$

10. $-7x = -54$

(5 points each)

11. $3(-2x - 8) - 2(3 - 4x) = 4(5x + 3) - (12x - 10)$

12. $3(3x + 7) = 3 - 2(3x - 14)$