Simplify the following by removing the parentheses, brackets, and braces as necessary: (3 pts. each)

1) $-(5a)=$

2) $(x+z)=$

3) $-(9a-7b+24)=$

4) $-(n-1)=$

5) $(2x+y)-6=$

6) $-\{7-[9-(7+8)]\}=$

7) $3(4x+5)-[(12x+10)+5]=$

8) $[5(x+2)-3x]=$

9) $\{4[3(y-2)-4(y+2)]-3\}=$

10) $[5(x+2)-3x]-\{4[3(y-2)-4(y+2)]-3\}=$

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Fill in the blanks:
(3 pts. per question)

11) 62.4 is _____% of 312.

12) 108 is _____% of 400.

13) 37 is to 111, as, 17 is to _____.

14) 535.5 is to 714, as, 75 is to _____.

15) 1 foot (12 inches) is to 1 inch, as, 1.0000 feet is to _____ feet, which is the decimal equivalent of 1 inch.

Word problem 1: (5 pts.)

16) A blueprint of a shopping mall is in the scale of 1" = 80'. One part of the mall is to be 220 feet long. How long will this be on the blueprint in inches?

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Perform each of the indicated operations:
(4 pts. each)

17) $\left(\frac{2}{3}\right)\left(\frac{3}{4}\right) =$

18) $\left(\frac{7}{5}\right) + \left(\frac{13}{-5}\right) =$

19) $t^4 \cdot t^3 \cdot t^2 =$

20) $r^6 \div r^9 =$

21) $\left(-x^4\right)^2 =$

22) $\left(y^3\right)\left(1/y^3\right) =$

23) $2x[3 + 4(-x - y)] =$

24) $4(3x + 4) + \{-2[2(3x + 3)] - 4\} =$

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Fill in the blanks in the following:
(3 pts. per question)

25) 0.5833 feet = _____ inches.

26) An equation is a statement of _____ between algebraic expressions. Because of this we are able to utilize the properties of simplification and transposition.

27) The sum of five consecutive odd numbers equals 15. The numbers are _____, _____, _____, _____ and _____.

28) If 28 equals 16% of a given number, then 49 will equal _____% of that same number.

Word problem 2:
(6 pts.)

29) A class contained a total of 12 ladies and 16 gentlemen, or a ratio of 3:4 – ladies to gentlemen. How many gentlemen would have to join the class to make the ratio 2:3 – ladies to gentlemen?

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