Instructions: Show all work. Partial credit can only be given where work is shown. Be sure to answer all parts of each question. You may not use a calculator on this quiz.

1. Calculate by hand (without a calculator) the expression 14(19) by rewriting the expression so that you can use the distributive property to calculate it more easily. Verify your result by multiplying by conventional methods.

$$14(20-1) = 14 \cdot 20 - 14 \cdot 1 = 280 - 14 = 266$$

2. Rewrite $3^7 \cdot 9^5 \cdot 27^2$ with just one base and one exponent.

$$3^7 \cdot (3^2)^5 \cdot (3^3)^2 =$$
$$3^7 \cdot 3^{10} \cdot 3^6 = 3^{23}$$

3. Simplify the expression $5^2 - 4^2 + (6-4)^2 \div 2^3$ using order of operations.

$$5^2 - 4^2 + 2^2 \div 2^3$$
$$25 - 16 + 4 \div 8$$
$$25 - 16 + \frac{1}{2}$$
$$9 + \frac{1}{2} = 9\frac{1}{2}$$