1. a) $1 + 2 + 3 + 4 + 5 + 6 + 7 =$

b) $(1 + 2 + 3) + (4 + 5 + 6 + 7) =$

c) $(1 + 2 + 3 + 4 + 5) + (6 + 7) =$

d) $(1 + 2) + 3 + (4 + 5 + 6 + 7) =$

e) $7 + 6 + 5 + 4 + 3 + 2 + 1 =$

f) $(7 + 6 + 5 + 4) + 3 + 2 + 1 =$

g) $4 + 1 + 2 + 7 + 3 + 5 + 6 =$

h) Did you get the same answer for #1a-g?

i) What mathematical property says you can add numbers in any order?

2. a) $2 \times 3 =$

b) $-2 \times 3 =$

c) $2 \times -3 =$

d) $-2 \times -3 =$

e) What is the sign of the result when you multiply:

positive × positive =

negative × negative =

negative × positive =

positive × negative =

3. Solve. Label as “identity” or “negation.”

a) $951{,}212 \times 1 =$ _____

b) $951{,}212 \times -1 =$ _____

c) $-951{,}212 \times 1 =$ _____

d) $-951{,}212 \times -1 =$ _____

4. a) $9 \div 3 =$

b) $-9 \div 3 =$

c) $9 \div -3 =$

d) $-9 \div -3 =$

e) Are the sign rules for <u>division</u> the same or different than multiplication (see #2e)?

5. Solve. Label as “identity” or “negation.”

a) $1{,}234{,}567 \div 1 =$ _____

b) $1{,}234{,}567 \div -1 =$ _____

c) $-1{,}234{,}567 \div 1 =$ _____

d) $-1{,}234{,}567 \div -1 =$ _____

6. $(1 + 2) \div 3 + 4 \times 5 - (6 + 7) =$

7. a) $-1 + -2 + -3 + -4 + -5 + -6 + -7 =$

b) $-1 - 2 - 3 - 4 - 5 - 6 - 7 =$

c) $-1 + -1\times2 + -1\times3 + -1\times4 + -1\times5 + -1\times6 + -1\times7 =$

d) $-1 + (-1\times2) + (-1\times3) + (-1\times4) + (-1\times5) + (-1\times6) + (-1\times7) =$

e) $-1 + (2\div-1) + (3\div-1) + (4\div-1) + (5\div-1) + (6\div-1) + (7\div-1) =$

8. a) $-2 \times -2 =$

b) $-2 \times -2 \times -2 =$

c) $-2 \times -2 \times -2 \times -2 =$

d) $-2 \times -2 \times -2 \times -2 \times -2 =$

e) What is the <u>sign</u> for multiplying an <u>odd</u> number of negative numbers?