

Section 1.1 – Expressions and Symbols

Problem Set 3

Convert each of the following English expressions to a mathematical expression and simplify it.

- four increased by eight
- the product of fourteen and seven
- the sum of eight and eleven
- two hundred three decreased by seventy-eight
- the quotient of ten and five
- five times three thousand thirty-two
- the quotient of twenty-two and eleven
- the difference between twelve and seven
- seven more than the product of four and eighteen
- six increased by nineteen
- the quotient of thirty-two and four more than two
- four plus the product of seven and two less than five
- the quotient of eighteen and twelve
- seven less than the quotient of one hundred and two

Convert each of the following scenarios into a mathematical expression and simplify it to answer the question.

- Mark has four more quarters than Andrew. If Andrew has seven quarters, how many does Mark have?
- On Tuesday, Microsoft's stock was worth \$24.58 per share. If you bought 24 shares, how much would it cost?
- Sandra has twice as much money as Juan. If Juan has four more quarters than Alex and Alex has three quarters, how much money does Sandra have?
- The population of a small town increased by 388 people in three years. If the original population was 5,332, how many people lived there after the three years ended?
- The average ambulance response time in a large city is 3.5 minutes. If an ambulance arrived at the scene in half the average time, what was their travel time?

Convert each mathematical expression to an English expression.

- $5 + 12$
- $48 - 3$
- $5 + 3 + 1$
- $12 + 3 / 2$
- $12 \cdot (2/3)$
- $20 / 3 + 3 / 12$
- $7 - 3 + 2$
- $3 \cdot 18 / 3$
- $5 - 4 / 20$

Put the appropriate symbol, = or \neq , in the blank.

- $3 \cdot 1$ ____ 6
- $12 \cdot 4$ ____ 20
- $16 / 3$ ____ 7
- $117 - 116$ ____ -1
- 121 ____ $10 \cdot 11 + 11$
- $121 / 11 + 2$ ____ $11 / 121 + 2$

Simplify the following expressions.

- $34(5 - 1)$
- $3((4 + 2) - 0)$
- $2(8 + 2) + 2(4 - 2)$
- $2(5 + 3) - (2 + 1)$
- $(16 - 8) - 1$
- $(10 - 1) / 18$
- $\frac{4 + 1}{12 - 2}$
- $\frac{3(23 - 12)}{11}$
- $2((3 + 2) - 4(3 + 6))$