

Section 1.8 Focus Exercises

1. Abbreviate each expression with familiar symbols. You do not need to evaluate these.

a) The difference of fourteen and two.

b) The square root of sixteen.

c) The sum of fifteen and ten.

d) The third power of five.

e) The product of eleven and eight.

f) The quotient of twelve and four.

2. Write each abbreviation in English.

a) $9 \cdot 20$

b) $\sqrt{64}$

c) $16 - 4$

d) $18 \div 3$

e) 3^5

f) $8 + 10$

3. Translate each English expression into an Algebraic expression. Use any variable of your liking to represent the unknown number.

a) The product of -3 and a number:

b) The quotient of a number and 7 :

c) The difference of -9 and a number:

d) The sum of -10 and a number:

e) The square of a number:

f) The difference of a number and -8 ;

4. Substitute the variable with the replacement value given, then evaluate the result.

- a) $y - k$ replace **y** with - 4 and **k** with (- 2): _____
- b) $- 3mh$ replace **m** with - 5 and **h** with - 6: _____
- c) $\frac{y + 6}{- 2k}$ replace **y** with - 42 and **k** with - 2: _____
- d) $b^2 + x$ replace **b** with - 3 and **x** with - 10: _____
- e) $y^2 - 5y$ replace **y** with - 2: _____
- f) $w \cdot v + 6w$ replace **w** with - 3 and **v** with 5: _____

5. Identify the expression by its main operation, then write (in English) its meaning.

Expression	Main operation	in English
a) $x^2 + 6$	_____	_____
b) $\sqrt{x - 5}$	_____	_____
c) $(3 \cdot x)^2$	_____	_____
d) $6(x + 8)$	_____	_____
e) $10 - \sqrt{x}$	_____	_____

6. In each English expression, put a box around the main operation (always written first) and the and to which it applies (if any); also, underline the sub-expression, then write its meaning in algebra.

English Expression	in Algebra
a) The quotient of the square of a number and 4.	_____
b) The product of 6 and the sum of a number and 2.	_____
c) The sum of 3 and the quotient of a number and 6.	_____
d) The difference of 5 and the product of a number and 9.	_____
e) The difference of the square root of a number and 9.	_____
f) The square of the sum of a number and 6.	_____