

WORKSHEET ANSWERS

EXPRESSIONS

Variables

- 1) Name a variable for: a) the age of your school; b) the weight of the food you eat in one day; c) the time you sleep each day; d) the speed of a car

a) a b) w c) t d) s

(Any variable is okay)

Expressions

- 2) Rewrite the following in an algebraic format:

a) $5a \div b$ b) $3 \times c \times d$ c) $(4x + 3) \div 7b$ d) $7 \times c + 8 \div d$

$$\frac{5a}{b}$$

$$3cd$$

$$\frac{4x + 3}{7b}$$

$$7c + \frac{8}{d}$$

e) $8x + 3 \div a$

f) $(4f - 3) \div (3 \times n)$

g) $5 \times 3g - 7 \div (4n + 2)$

$$8x + \frac{3}{a}$$

$$\frac{4f - 3}{3n}$$

$$15g - \frac{7}{4n + 2}$$

- 3) An expression that uses a variable is called a(n) Algebraic or Variable expression.

- 4) Write expressions for the following word phrases:

a) thirty-five decreased by a number, n

$$35 - n$$

b) five times a weight, w

$$5w$$

c) the quotient of 15 and a number, x

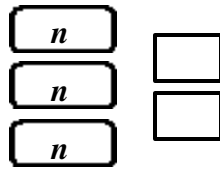
$$\frac{15}{x}$$

d) a number decreased by 5

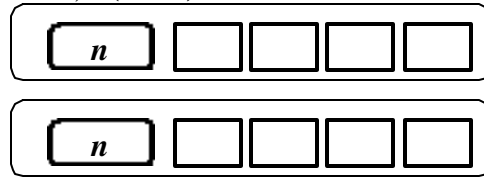
$$n - 5$$

5) With $n = \boxed{n}$, and $1 = \boxed{}$, draw the following expressions:

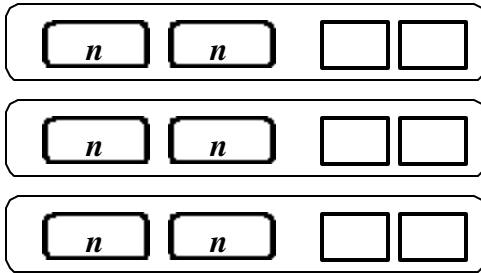
a) $3n + 2$



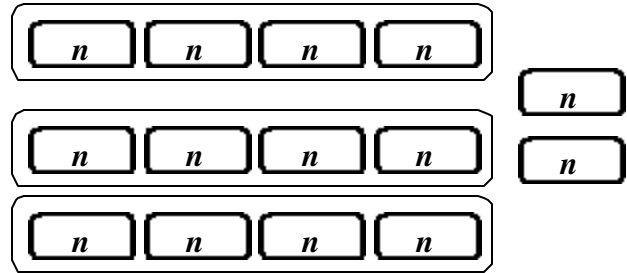
b) $2(n + 4)$



c) $3(2n + 2)$



d) $3(4n) + 2n$



6) Using the Order-of-Operations evaluate the following expressions:

a) $5 + 6 \div 7 \times 8$

a) **11.857**

b) $3 \div 3 + 4 \div 4$

b) **2**

c) $2(11 + 2c)$, with $c = 3$

c) **34**

d) $(3n)(4k)$, with $n = 2$, $k = 5$

d) **120**

e) $3w + 4w - w$, with $w = 3$

e) **18**

f) $\frac{(3n + 1)}{2(2 - n)}$, with $n = 1$

f) **2**

Patterns

7) In words describe the patterns below:

a) 3, 5, 8, 12, 17, 23, ...

The second number adds 2 to the first. The third number adds 3 to the second. The fourth adds 4 to the third, and so on.

b) $7m, 14m, 21m, 28m, \dots$

The first expression is one times $7m$. The second expression is 2 times $7m$. The third is 3 times $7m$, and so on.

c) $9c + 1, 7c + 1, 5c + 1, \dots$

The second expression is $2c$ minus the first. The third expression is $2c$ minus the second and so on.