

Lesson 1 Homework Practice**Algebraic Expressions**

Evaluate each expression if $r = 5$, $s = 2$, $t = 7$, and $u = 1$.

1. $s + 7$

$2 + 7 = 9$

2. $9 - u$

$9 - 1 = 8$

3. $3t + 1$

$3(7) + 1$
 $21 + 1 = 22$

4. $5r - 4$

$5(5) - 4$
 $25 - 4 = 21$

5. $t - s$

$7 - 2 = 5$

6. $u + r$

$1 + 5 = 6$

$r = 5, s = 2$

7. $11t - 7$

$11(7) - 7$
 $77 - 7 = 70$

8. $6 + 3u$

$6 + 3(1)$
 $6 + 3 = 9$

9. $4r - 10s$

$4(5) - 10(2)$
 $20 - 20 = 0$

10. $3u^2$

$3(1)^2$
 $3(1) = 3$

$(3u)^2$
 $(3 \cdot 1)^2$
 $3^2 = 9$

11. $2t^2 - 18$

$2(7)(7) - 18$
 $2(49) - 18 = 98 - 18 = 80$

12. $r^2 + 8$

$5 \cdot 5 + 8$
 $25 + 8 = 33$

13. $\frac{s}{2}$

14. $\frac{30}{r}$

$\frac{30}{5} = 6$

15. $\frac{(3+u)^2}{8}$

$\frac{(3+1)^2}{8} = \frac{4^2}{8} = \frac{4 \cdot 4}{8} = \frac{16}{8} = 2$

$u = 1$

Evaluate each expression if $a = 4.1$, $b = 5.7$, and $c = 0.3$.

16. $a + b - c$

17. $10 - (a + b)$

18. $b - c + 2$

19. **MOON** The expression $\frac{w}{6}$ gives the weight of an object on the Moon in pounds with a weight of w pounds on Earth. What is the weight of a space suit on the Moon if the space suit weighs 178.2 pounds on Earth?

20. Complete the table.

Pounds (p)	Ounces ($16p$)
1	16
2	32
3	
4	
5	

$\frac{(3+1)^2}{8} = \frac{4^2}{8} = \frac{16}{8} = 2$

$\frac{3+1^2}{8} = \frac{3+1}{8} = \frac{4}{8} = \frac{1}{2}$

Lesson 2 Homework Practice

Sequences

Describe the relationship between the terms in each arithmetic sequence. Then write the next three terms in each sequence.

① 0, 5, 10, 15, ... *20, 25, 30*
GOING UP BY 5

2. 1, 3, 5, 7, ... *9, 11, 13*
GO UP BY 2

3. 18, 27, 36, 45, ... *54, 63, 72*
GOES UP BY 9

4. 7, 19, 31, 43, ... *55, 67, 79*
ADDING 12

5. 8, 18, 28, 38, ... *48, 58, 68*
ADDING 10 EACH TIME

6. 25, 26, 27, 28, ... *29, 30, 31*
GOES UP BY 1

7. 0.4, 0.8, 1.2, 1.6, ... *2, 2.4, 2.8*
CHANGE BY + 0.4

8. 3.7, 3.7, 3.7, 3.7, ...

⑨ 5.1, 6.2, 7.3, 8.4, ... *9.5, 10.6, 11.7*
GOES UP BY 1.1

10. 17, 31, 45, 59, ...

11. 30, 50, 70, 90, ...

12. 14, 41, 68, 95, ...

NUMBER SENSE Find the 40th term in each arithmetic sequence.

13. 4, 8, 12, 16, ... *20 ... 160*
GROWING BY 4
(1-4) (2-4) (3-4) (4-4) (40-4)
1st 2nd 3rd 4th 40th

14. 13, 26, 39, 52, ...

15. 6, 12, 18, 24, ... *240*
(6x1) (6x2) (6x3) (6x4) (6x40)

16. **GEOMETRY** The lengths of the sides of a 6-sided polygon are an arithmetic sequence. The length of the shortest side is 3 meters. If the length of the next longer side is 5 meters, what is the length of the longest side?

17. **FREE FALLING OBJECT** A free falling object increases speed by a little over 22 miles per hour each second. The arithmetic sequence 22, 44, 66, ..., represents the speed after each second, in miles per hour, of a dropped object. How fast is a rock falling after 8 seconds if it is dropped over the side of a cliff?

Lesson 4 Homework Practice

The Distributive Property

Use the Distributive Property to evaluate each expression.

1. $(16 - 6)2$

2. $4(12 + 3)$

3. $-3(-7 + 2)$

$$\begin{aligned} 4. (8 + 3)(-1) \\ -1(8) + (-1)(3) \\ -8 + (-3) = -11 \end{aligned}$$

5. $5(7 + 3)$

$$\begin{aligned} 6. -2(8 - 5) \\ -2(8) - (-2)(5) \\ -16 - (-10) = -6 \end{aligned}$$

Use the Distributive Property to rewrite each expression.

$$\begin{aligned} 7. (2 + g)8 \\ 8(2) + 8(g) \\ 16 + 8g \end{aligned}$$

$$\begin{aligned} 8. 4(h - 5g) \\ 4(h) - 4(5g) \\ 4h - 20g \end{aligned}$$

$$\begin{aligned} 9. -7(5 - n) \\ -7(5) - (-7)(n) \\ -35 - (-7n) = -35 + 7n \end{aligned}$$

10. $8(2m + 1)$

$$\begin{aligned} 11. 6x(y - z) \\ 6xy - 6xz \end{aligned}$$

12. $-3(2b - 2a)$

13. **DINING OUT** The table shows the different prices at a diner.

Item	Cost (\$)
Sandwich	\$5
Drink	\$2
Dessert	\$3

a. Write two equivalent expressions for the total cost if two customers order each of the items.

b. What is the total cost for both customers?

14. **SUNDAES** Carmine bought 5 ice cream sundaes for his friends. If each sundae costs \$4.95, how much did he spend? Justify your answer by using the Distributive Property.