Name Key Period

3.4 and 3.5 Guided Notes (Multiplying and Dividing Integers)

Multiplying Integers

- The product of two integers with different signs is negative.

1. $3(-5)$ -15
2. $-6(8)$ -48
3. $9(-2)$ -18
4. $-7(4)$ -28

- The product of two integers with the same sign is positive.

5. $-11(-9)$ 99
6. $(-4)^2$ 16
7. $-3(-4)(-2)$ $12(-2)$ -24
8. $-12(-4) =$ 48
9. $(-5)^2 =$ 25
10. $-7(-5)(-3)$ $35(-3) = -105$

11. A submersible is diving from the surface of the water at a rate of 90 feet per minute. What is the depth of the submersible after 7 minutes?

Multiplication Expression: $-90(7)$

Product: -630

Meaning: Depth is 630 ft below surface

12. Mr. Simon's bank automatically deducts a $4 monthly maintenance fee from his savings account. Write a multiplication expression to represent the maintenance fees for one year. Then find the product and explain its meaning.

Multiplication Expression: $-4(12)$

Product: -48

Meaning: Deduction of $48 after one year.

Dividing Integers

- The quotient of two integers with different signs is negative.

13. $80 \div (-10)$ -8

14. $-\frac{55}{11}$ -5

15. $20 \div (-4)$ -5

16. $\frac{(-81)}{9}$ -9

17. $-45 \div 9$ -5

- The quotient of two integers with the same sign is positive.

18. $-14 \div (-7)$ 2

19. $\frac{-27}{-3}$ 9

20. Evaluate $-16 \div x$ if $x = -4$

$-16 \div (-4) = 4$

21. $-24 \div (-4)$ 6

22. $-9 \div (-3)$ 3

23. $\frac{-28}{-7}$ 4

24. Evaluate $a \div b$ if $a = -33, b = -3$

$-33 \div -3 = 11$

25. The average temperature in January for North Pole, Alaska is -24 degrees Celsius. Use the expression $\frac{9C+160}{5}$ to find this temperature in degrees Fahrenheit. Round to the nearest degree. Then explain its meaning.

$\frac{9(-24)+160}{5} = \frac{-216+160}{5} = \frac{-56}{5} = -11.2°F$

Summary

- How are multiplication and division similar?

X	+	-
+	+	−
-	−	+

÷	+	-
+	+	−
-	−	+