

# Applied Math 30S Math Skills

## Unit 1: Number Sense - Hand-In Assignment

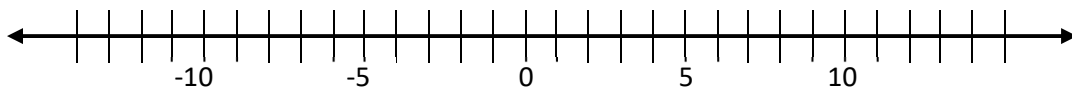
(Integers, Exponents and Roots)

Name \_\_\_\_\_

Due Date: \_\_\_\_\_

Complete the following questions in the spaces provided. Show all work where possible.  
If rounding is necessary, round final answer to **two decimal places**.

1. Complete the following questions without the use of calculator.  
A number line is provided here for reference:



a)  $4 + 8$

b)  $4 - 7$

c)  $-9 + 9$

d)  $-7 - 6$

f)  $5 - 3$

g)  $14 - 11$

h)  $-37 - 13$

2. Complete the following questions.

a)  $-7 + 4 - 11 - 1$

b)  $18 + 3 - 2 - 6$

c)  $-4 + 7 + 5 - 4 - 8$

3. A recent field trip saw 5 students sign up in week one, 10 students sign up in week two, and 24 students sign up in week three. At the last minute 7 students cancelled (they were not going to go on the trip). How many students will be going on the trip?

4. At the hot springs in Iceland, the water is much warmer than the outside air. If the water has a temperature of  $30^{\circ}\text{C}$ , and the outside air has a temperature of  $-10^{\circ}\text{C}$ , what is the difference in temperature from the water to the air?

5. Simplify each of the following.

a)  $4 \times 5$

b)  $(-6)(7)$

c)  $3(-8)$

f)  $(-3)(5)(6)$

6. At a cattle ranch there are 4 separate groups of animals. Each group has 32 cattle in it. How many cattle are on the ranch?

7. Mark made 5 withdrawals from her bank account. Each time he withdrew \$55. Use negatives to show how much the balance in her account has dropped.

8. Donald has five children. He wants to give his children \$65, divided evenly between each child. How much money will each child receive?

9. Simplify the following.

a)  $\frac{-36}{-9}$

b)  $\frac{20}{-4}$

c)  $(-44) \div (-11) =$

d)  $4\sqrt{-328}$

10. Simplify each of the following:

a.  $(3 - 5)(2 + 7)$

b)  $-3(-5) - (-8)$

c)  $7 - \frac{-15}{8-3} - 2(-3)$

d)  $(6 - 12) \div (4 + 2)$

e)  $6 + (2(1 + 3))$

f)  $\frac{-16+8}{3}$

g)  $\frac{8-22}{-30+23}$

11. Complete the following chart

Standard multiplication	Exponential form	Write in words	Evaluate
$3 \times 3 \times 3 \times 3$			
	$5^3$		
		Six raised to the power of three	
			1296

12. Evaluate the following powers

a.  $4^3$

b.  $3^5$

c.  $7^2$

13. Determine the following square roots and cube roots. Round to 2 decimal places when necessary.

a.  $\sqrt{64}$

b.  $\sqrt{132.25}$

c.  $\sqrt{9}$

d.  $\sqrt[3]{216}$

e.  $\sqrt[3]{91.125}$

f.  $\sqrt[3]{512}$

14. Fill out the following table.

In Words	Radical Form	Evaluate
The square root of two hundred fifty-six		
	$\sqrt{3600}$	
The cube root of five hundred twelve		
	$\sqrt[3]{64}$	

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