Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

**7.2A Finding Cube Roots\_Classwork**

*Objective: Evaluate cube roots of perfect cubes. Use cube roots to solve equations. (CCSS: 8.EE.2)*

*VIDEO:* <https://www.youtube.com/watch?v=Kpnad_I138Y>

|  |  |
| --- | --- |
|  |  |

Fill in the chart:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| $$1^{3}=$$ | $$2^{3}=$$ | $$3^{3}=$$ | $$4^{3}=$$ | $$5^{3}=$$ | $$6^{3}=$$ |
| $$7^{3}=$$ | $$8^{3}=$$ | $$9^{3}=$$ | $$10^{3}=$$ | $$11^{3}=$$ | $$12^{3}=$$ |
|  |  |  |  |  |  |
| $$(-1)^{3}=$$ | $$(-2)^{3}=$$ | $$(-3)^{3}=$$ | $$(-4)^{3}=$$ | $$(-5)^{3}=$$ | $$(-6)^{3}=$$ |
| $$(-7)^{3}=$$ | $$(-8)^{3}=$$ | $$(-9)^{3}=$$ | $$(-10)^{3}=$$ | $$(-11)^{3}=$$ | $$(-12)^{3}=$$ |

Copy examples 1-3, p. 296-7. Then do On Your Own #1 – 8

**EXAMPLE 1: Finding Cube Roots**

|  |  |  |
| --- | --- | --- |
| a. $\sqrt[3]{8}$ | b. $\sqrt[3]{-27}$ | c. $\sqrt[3]{\frac{1}{64}}$ |

**ON YOUR OWN**

|  |  |  |
| --- | --- | --- |
| 1. $ \sqrt[3]{1}$
 | 1. $\sqrt[3]{-343}$
 | 1. $\sqrt[3]{-\frac{27}{1,000}}$
 |

**EXAMPLE 2: Evaluating Expressions Involving Cube Roots**

|  |  |
| --- | --- |
| $$a. 2\sqrt[3]{-216}-3=$$ | b. $ \left(\sqrt[3]{125}\right)^{3}+21$ |

**ON YOUR OWN. Evaluate the expression.**

|  |  |  |
| --- | --- | --- |
| 1. $18-4\sqrt[3]{8}=$
 | 1. $\left(\sqrt[3]{-64}\right)^{3}+43$
 | 1. $ 5\sqrt[3]{512}-19$
 |

**EXAMPLE 3: Evaluating an Algebraic Expression**

|  |  |  |
| --- | --- | --- |
| 1. $\frac{x}{4}+\sqrt[3]{\frac{x}{3} } when x=192$
 | 1. $\frac{w}{30}+\sqrt[3]{\frac{w}{5} } $

$$when w=1080$$ | 1. $\sqrt[3]{3375}$
 |

**ON YOUR OWN. Directions: Evaluate the expression for the given value of the variable.**

|  |  |
| --- | --- |
| 1. $\sqrt[3]{8y}+y when y=64$
 | 1. $2b- \sqrt[3]{9b}$ when b = -3
 |

HW: (7.2A) p. 298 #1, 9-11 ALL, 12, 14, 18-20 ALL (Solutions on p. A32)

Copy down the problem. Show your work. Check your answers

EVEN SOLUTIONS: 4) $\frac{1}{3}ft.$ 6) 9 8) -10 10) $-\frac{1}{8}$ 12) -9