

Homework Questions??

#10

$$7a^2 + 53a + 28$$

$$7 \cdot 28 = 196$$



$$\underline{4a} + \underline{49a} = 53a$$

196 · 1

$$(7a+4)(a+7)$$

	<u>a</u>	<u>7</u>
<u>7a</u>	$7a^2$	$49a$
<u>4</u>	$4a$	28

Factoring the Sum & Difference of Cubes

(Add) (Subtract)

$$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$

$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

Remember to use same
opposite
Always
Positive

Example 1: $x^3 + 8$

$$(a+b)(a^2-ab+b^2)$$

$$\sqrt[3]{x^3} = x$$

$$\sqrt[3]{8} = 2$$

$$(x+2)(x^2-2x+4)$$

Example 2: $27h^3 - 1$

$$(a - b)(a^2 + ab + b^2)$$

$$\sqrt[3]{27h^3} = 3h$$

$$\sqrt[3]{1} = 1$$

$$(3h - 1)(9h^2 + 3h + 1)$$



Example 3: $-81z^3 - 192$

$$(a-b)(a^2+ab+b^2)$$

$$3(-27z^3 - 64)$$

$$\sqrt[3]{-27z^3} = -3z$$

$$\sqrt[3]{64} = 4$$

$$3(-3z-4)(9z^2-12z+16)$$

★ Don't forget your GCF

Example 4: $216y^3 + 125$

$$(a + b)(a^2 - ab + b^2)$$

$$\sqrt[3]{216y^3} = 6y$$

$$\sqrt[3]{125} = 5 \quad (6y + 5)(36y^2 - 30y + 25)$$

Homework is Page 3.5 in Packet