

Date: 02-28-19

Sum or diff. of squares:

$$B. 16x^2 - 9 = (4x+3)(4x-3)$$

$$C. 4xy^2 - 4xz^2 = 4x(y^2 - z^2) \\ = 4x(y+z)(y-z)$$

$$D. 16x^2 - 25z^2 = (4x+5z)(4x-5z)$$

$$\# x^4 - 49 = (x^2)^2 - 7^2 \\ = (x^2+7)(x^2-7)$$

$$\# a^{10} - 4 = (a^5)^2 - (2)^2 \\ = (a^5+2)(a^5-2)$$

$$\# y^{26} - 36 = (y^{13})^2 - (6)^2 \\ = (y^{13}+6)(y^{13}-6)$$

$a^2 + 25 = \text{Prime}$

$$\begin{aligned}
 x^4 - 81 &= (x^2)^2 - (9)^2 \\
 &= (x^2 + 9)(x^2 - 9) \\
 &= (x^2 + 9)(x^2 - 3^2) \\
 &= \boxed{(x^2 + 9)(x + 3)(x - 3)}
 \end{aligned}$$

Web assign problem :

$$2. \quad 4x^2 - 20x$$

$$= \boxed{4x(x - 5)}$$

$$3. \quad 8z^3 - 16z^2 + 24z$$

$$= \boxed{8z(z^2 - 2z + 3)}$$

~~$$= 8z(z^2 + 2z - 3z + 3)$$~~

$$4. \quad \frac{81}{8}y(y+1) - 9(y+1)$$

$$= (y+1) \left(\frac{81}{8}y - 9 \right)$$

$$= (y+1) \left(\frac{81}{8}y - \frac{9}{1} \cdot \frac{8}{8} \right)$$

$$= (y+1) \left(\frac{81}{8}y - \frac{72}{8} \right) = (y+1) \frac{1}{8} (81y - 72) \quad (35)$$

$$= (y+1) \frac{9}{8} (9y-8)$$

$$= \boxed{\frac{9}{8} (y+1) (9y-8)}$$

$$5. \quad 18 - 50z^2 = 2(9 - 25z^2)$$

$$= 2 \left[(3)^2 - (5z)^2 \right]$$

$$= \boxed{2(3+5z)(3-5z)}$$

$$6. \quad (x-4)^2 - 81 = (x-4)^2 - (9)^2$$

$$= (x-4+9)(x-4-9)$$

$$= \boxed{(x+5)(x-13)}$$

$$\# \quad x^2 - 25 = (x+5)(x-5)$$

$$\# \quad x^2 + 25 = \text{prime}$$

Sum or diff. of cubes:

$$8x^3 + 125 = (2x+5)(4x^2-10x+25)$$

(2x) (5)

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$$1^3 = 1$$

$$2^3 = 8$$

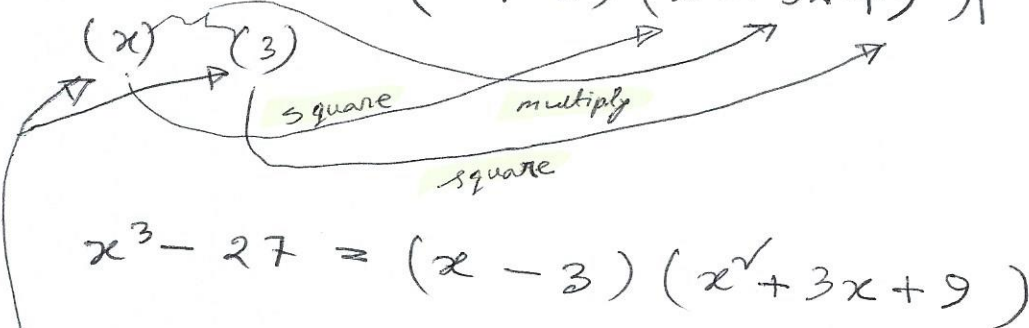
$$3^3 = 27$$

$$4^3 = 64$$

$$5^3 = 125$$

$$6^3 = 216$$

$$x^3 + 27 = (x+3)(x^2-3x+9)$$



$$x^3 - 27 = (x-3)(x^2+3x+9)$$

identify cube roots

18. $x^5 + 7x^3 + x^2 + 7$

$$= x^5 + x^2 + 7x^3 + 7$$

$$= x^2(x^3+1) + 7(x^3+1)$$

$$= \boxed{\frac{x^3}{(x)} \frac{(x^3+1)}{(1)} (x^2+7)}$$
 not done yet

$$= \boxed{(x+1)(x^2-x+1)(x^2+7)}$$
 this is the answer. (37)