



مدونة المناهج السعودية

<https://eduschool40.blog>

الموقع التعليمي لجميع المراحل الدراسية

في المملكة العربية السعودية

4/5

Student name: _____

Student number: _____

$10 + 12 = 22$

Question.3: Show your work for full credit:

Factor the following expressions:

a) $x^2 - 7x - 18$

$(x - 9)(x + 2)$

b) $8x^2 - 26x + 15$

$(4x - 3)(2x - 5)$ ~~$\implies 4x \cdot 3$~~ ~~$2x \cdot 5$~~

c) $4x^2 - 49$

$2^2 x^2 - 7^2$

d) $64x^3 - 27y^3$

$4^3 x^3 - 3^3 y^3$

e) $x^4 + x^2 - 20$

f) $18w^3 + 15w^2 + 12w + 10$

g) $x^2 + 6xy + 9y^2 - 1$



koizat.com



koizat.com

Question 1

1. Simplify form of $\left(\frac{-4x^2y^3}{2x^3y^4}\right)^2 = \left(\frac{8x^{-4}y^{-6}}{4x^6y^8}\right) = \left(\frac{2y^{-2}}{x^2}\right) = \left(\frac{2}{x^2y^2}\right)$

a) $\frac{-2x^5}{y^{10}}$ b) $\frac{4y^{10}}{x^{10}}$

2. The simplest form of the radical expression $\sqrt[3]{108m^4n^6}$ is

a) $3n\sqrt[3]{2m^2n^2}$ b) $3mn^2\sqrt[3]{4m}$ c) $2mn^2\sqrt[3]{54m^3}$

3. The degree of $3xy(x^4-3)+y^2x^2-y$ is

a) 2 b) 4 c) 6

4. Factor $\sqrt[3]{8x^3} - \sqrt[3]{27y^3}$

a) $(2x-3y)(4x^2+6xy+9y^2)$
 b) $(8x-27y)(2x^2+216xy+3y^2)$
 c) $(8x-27y)(2x^2-216xy+3y^2)$

5. Simplify $\frac{4}{\sqrt[3]{2}}$

a) $4\sqrt[3]{2}$ b) $2\sqrt[3]{4}$ c) $3\sqrt[3]{4}$

$\frac{4}{\sqrt[3]{2}} = \frac{4\sqrt[3]{4}}{\sqrt[3]{2}\sqrt[3]{4}} = \frac{4\sqrt[3]{4}}{\sqrt[3]{8}} = \frac{4\sqrt[3]{4}}{2}$

Question 2: Show your work for full credit:

a) $(-2ab^4)(-3a^2b^5) = (6a^3b^9)$

b) $\frac{(2x^3y^{-3})^2}{(4x^2y^4)^{\frac{1}{2}}} = \frac{(4x^6y^{-6})}{(2xy^2)} = \frac{(2^2x^6y^{-6})}{(2^1x^1y^2)} = \frac{(4x^5y^{-8})}{(2xy^2)} = \frac{(2x^5)}{(y^8)}$

c) $\left(\frac{1}{8}\right)^{-\frac{4}{3}} = \left(\frac{1}{8}\right)^{\frac{4}{3}} = 16$

d) Multiply: $(4x+5)(3x-7) = 12x^2 - 28x + 15x - 35 = 12x^2 - 13x - 35$

e) $(3x^2 - y)^2 = (9x^4 + 6x^2y + y^2)$

f) Evaluate: $x^2 + 7x + 1$ for $x = 3 = (3)^2 + (7 \times 3) + 1 = 9 + 21 + 1 = 31$

g) Simplify: $\frac{5}{2\sqrt{3} - \sqrt{2}}$

