

MATHEMATICS

نماذج اختبارات الأضواء

لشهر أكتوبر

الصف
2
الإعدادي
الفصل الدراسي الأول



1- Choose the correct answer:

2

a $x^2 - bx + 15$ is factorizable, then b can be equal to

(8 , 4 , -2 , 1)

b The irrational number between 2 and 3 is

($\sqrt[3]{8}$, $\sqrt{10}$, $2.\bar{5}$, $\sqrt[3]{12}$)

2- Answer each of the following:

8

a Find in \mathbb{R} the solution set of the following equation: $2x^2 + 2 = 18$

.....

b If $X = [-2 , 2 [$, $Y =] -1 , 4]$, find using the number line:

a. $X - Y$

b. $X \cap Y$

c. $X \cup Y$



a.

b.

c.

c Find in the simplest form:

$$4\sqrt[3]{2} + 2\sqrt{7} - 3\sqrt{7} + 2\sqrt[3]{2} - \sqrt{7}$$

.....

d Factorize the following by taking out the G.C.F:

a. $2mn - 6m - 8mnx$

b. $x(y + 2) + 8(y + 2)$

a.

b.

1- Choose the correct answer:

2

- a The number $\sqrt{7}$ lies between two consecutive integers which are
 (2 and 3 , 3 and 4 , 4 and 5 , 5 and 6)
- b The greatest common factor in the polynomial $28x^3y - 7xy^2 - 49xy$ is
 ($7xy^2$, $-7x$, $7x^2y^2$, $7x^2y$)

2- Answer each of the following:

8

- a Find in \mathbb{Q} the solution set of the following equation: $3x^3 - 2(3x^3 - 1) = 83$

.....

- b If $X = [-3, \infty [$, $Y =] -\infty, 2]$, find using the number line:

a. $X - Y$

b. $X \cap Y$

c. $X \cup Y$



a.

b.

c.

- c Find in the simplest form:

$$(3\sqrt{2} + 2)(\sqrt{2} - 1)$$

.....

- d If $2^x = 3$, then find the numerical value of the following:

a. 2^{x+2}

b. 2^{x-2}

c. $2^{x+2} \times 2^{x-2}$

a.

b.

c.

1- Choose the correct answer:

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- a If $x + y = 8$, $a - b = 6$, then $x(a-b) - y(b-a) = \dots\dots\dots$. (48 , 14 , 2 , 64)
- b The multiplicative inverse for $\frac{\sqrt{3}}{12}$ is $\dots\dots\dots$. ($2\sqrt{3}$, $4\sqrt{3}$, $-\sqrt{3}$, $3\sqrt{3}$)

2- Answer each of the following:

8

- a Factorize the following: $(x + 3)^2 - 2(x + 3)^3$

.....

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- b Find in \mathbb{R} the solution set of the following equations:

a. $x^2 - 8x - 20 = 0$

b. $x^2(x + 2)^2 - (x + 2)^2 = 0$

a.

.....

b.

.....

.....

- c Find in simplest form:

$\sqrt{48} - 2\sqrt{27} + 3\sqrt{\frac{1}{3}}$

.....

.....

- d If $x = 2\sqrt{3}$, $y = 5\sqrt{3}$, find the numerical value of: $(x^2 + y^2)^{-1}$

.....

.....

.....

1- Choose the correct answer:

2

- a What is the estimate value of the number $\sqrt{26}$ to the nearest integer?
(5 , 6 , 7 , 26)
- b The G.C.F in the polynomial $32x^2y + 8xy^2 + 16xy^2$ is
($8xy$, $8x$, $8x^2y^2$, $8x^2y$)

2- Answer each of the following:

8

- a Find in \mathbb{Q} the solution set of the following equation:

$$2x^2 - 7 = 9$$

.....

.....

.....

.....

- b The dimensions of a rectangle are $(3\sqrt{2} + 1)$ cm and $(3\sqrt{2} - 1)$ cm, find the area of the rectangle.

.....

.....

- c Factorize the following: $3x^2 - 18x - 48$

.....

.....

- d Simplify to the simplest form:

$$\frac{(\sqrt{3})^{-9} \times (\sqrt{3})^7}{(\sqrt{3})^{-4} \times (\sqrt{3})^5}$$

.....

.....

MATHEMATICS

إجابات نماذج اختبارات الأضواء

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1- Choose the correct answer:

a $x^2 - bx + 15$ is factorizable, then b can be equal to

(8 , 4 , -2 , 1)

b The irrational number between 2 and 3 is

($\sqrt[3]{8}$, $\sqrt{10}$, $2\bar{5}$, $\sqrt[3]{12}$)

2- Answer each of the following:

a Find in \mathbb{R} the solution set of the following equation: $2x^2 + 2 = 18$

$$2x^2 + 2 = 18$$

$$2x^2 = 18 - 2$$

$$\frac{2}{2} x^2 = \frac{16}{2}$$

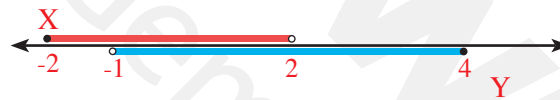
$$x^2 = 8 \quad , \quad x = 2\sqrt{2} \quad , \quad \text{then the solution set} = \{ 2\sqrt{2} \quad , \quad -2\sqrt{2} \}$$

b If $X = [-2 , 2 [$, $Y =] -1 , 4]$, find using the number line:

a. $X - Y$

b. $X \cap Y$

c. $X \cup Y$



a. $[-2 , -1]$

b. $]-1 , 2[$

c. $[-2 , 4]$

c Find in the simplest form:

$$4\sqrt[3]{2} + 2\sqrt{7} - 3\sqrt{7} + 2\sqrt[3]{2} - \sqrt{7}$$

$$= 4\sqrt[3]{2} + 2\sqrt[3]{2} + 2\sqrt{7} - 3\sqrt{7} - \sqrt{7}$$

$$= 6\sqrt[3]{2} - 2\sqrt{7}$$

d Factorize the following by taking out the G.C.F:

a. $2mn - 6m - 8mnx$

b. $x(y + 2) + 8(y + 2)$

a. G.C.F = $2m$, then $2m(n - 3 - 4nx)$

b. G.C.F = $(y + 2)$, $(y + 2)(x + 8)$

1- Choose the correct answer:

- a The number $\sqrt{7}$ lies between two consecutive integers which are
 (2 and 3 , 3 and 4 , 4 and 5 , 5 and 6)
- b The greatest common factor in the polynomial $28x^3y - 7xy^2 - 49xy$ is
 ($7xy$, $-7x$, $7x^2y^2$, $7x^2y$)

2- Answer each of the following:

- a Find in \mathbb{Q} the solution set of the following equation: $3x^3 - 2(3x^3 - 1) = 83$

$$3x^3 - 6x^3 + 2 = 83$$

$$3x^3 - 6x^3 = 81$$

$$\frac{-3}{-3} x^3 = \frac{81}{-3}$$

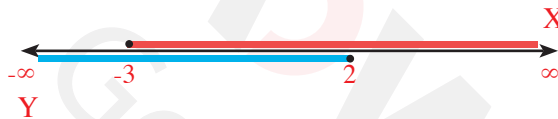
$$x^3 = -27 , \quad x = -3 , \quad \text{then the solution set} = \{-3\}$$

- b If $X = [-3, \infty[$, $Y =]-\infty, 2]$, find using the number line:

a. $X - Y$

b. $X \cap Y$

c. $X \cup Y$



a. $]2, \infty[$

b. $[-3, 2]$

c. $]-\infty, \infty[$

- c Find in the simplest form:

$$(3\sqrt{2} + 2)(\sqrt{2} - 1)$$

$$= 3 \times 2 - 3\sqrt{2} + 2\sqrt{2} - 2$$

$$= 6 - \sqrt{2} - 2$$

$$= 4 - \sqrt{2}$$

- d If $2^x = 3$, then find the numerical value of the following:

a. 2^{x+2}

b. 2^{x-2}

c. $2^{x+2} \times 2^{x-2}$

a. $2^{x+2} = 2^x \times 2^2 = 3 \times 4 = 12$

b. $2^{x-2} = 2^x \times 2^{-2} = 3 \times \frac{1}{4} = \frac{3}{4}$

c. $2^{x+2} \times 2^{x-2} = 12 \times \frac{3}{4} = 9$

1- Choose the correct answer:

- a If $x + y = 8$, $a - b = 6$, then $x(a-b) - y(b-a) = \dots\dots\dots$ (48 , 14 , 2 , 64)
- b The multiplicative inverse for $\frac{\sqrt{3}}{12}$ is $\dots\dots\dots$ ($2\sqrt{3}$, $4\sqrt{3}$, $-\sqrt{3}$, $3\sqrt{3}$)

2- Answer each of the following:

- a Factorize the following: $(x + 3)^2 - 2(x + 3)^3$

$$= (x + 3)^2 [1 - 2(x + 3)] = (x + 3)^2 (1 - 2x - 6)$$

$$= -(x + 3)^2 (2x + 5)$$

- b Find in \mathbb{R} the solution set of the following equations:

a. $x^2 - 8x - 20 = 0$

b. $x^2(x + 2)^2 - (x + 2)^2 = 0$

a. $(x + 2)(x - 10) = 0$

$x = -2$ or $x = 10$, then the solution set = $\{-2, 10\}$

b. $(x + 2)^2(x^2 - 1) = 0$

$(x + 2)^2 = 0$, $x^2 - 1 = 0$

$x = -2$, $x = 1$ or -1

, then the solution set = $\{-1, 1, -2\}$

- c Find in simplest form:

$$\sqrt{48} - 2\sqrt{27} + 3\sqrt{\frac{1}{3}}$$

$$= 4\sqrt{3} - 2 \times 3\sqrt{3} + \sqrt{3}$$

$$= 4\sqrt{3} - 6\sqrt{3} + \sqrt{3}$$

$$= -\sqrt{3}$$

- d If $x = 2\sqrt{3}$, $y = 5\sqrt{3}$, find the numerical value of: $(x^2 + y^2)^{-1}$

$$= [(2\sqrt{3})^2 + (5\sqrt{3})^2]^{-1}$$

$$= [12 + 75]^{-1}$$

$$= (87)^{-1} = \frac{1}{87}$$

1- Choose the correct answer:

- a What is the estimate value of the number $\sqrt{26}$ to the nearest integer?
(5 , 6 , 7 , 26)
- b The G.C.F in the polynomial $32x^2y + 8xy^2 + 16xy^2$ is
($8xy$, $8x$, $8x^2y^2$, $8x^2y$)

2- Answer each of the following:

- a Find in \mathbb{Q} the solution set of the following equation:

$$2x^2 - 7 = 9$$

$$2x^2 - 7 = 9$$

$$2x^2 = 9 + 7$$

$$\frac{2}{2}x^2 = \frac{16}{2}$$

$$x^2 = 8 \quad , \quad x = -2\sqrt{2} \quad , \quad 2\sqrt{2} \quad , \quad \text{then the solution set} = \{-2\sqrt{2} \quad , \quad 2\sqrt{2}\}$$

- b The dimensions of a rectangle are $(3\sqrt{2} + 1)$ cm and $(3\sqrt{2} - 1)$ cm, find the area of the rectangle.

$$\text{-Area of rectangle} = \text{Length} \times \text{Width}$$

$$\text{Area of rectangle} = (3\sqrt{2} + 1) \times (3\sqrt{2} - 1) = 18 - 1 = 17 \text{ cm}^2$$

- c Factorize the following: $3x^2 - 18x - 48$

$$3x^2 - 18x - 48 = 3(x^2 - 6x - 16)$$

$$= 3(x + 2)(x - 8)$$

- d Simplify to the simplest form:

$$\frac{(\sqrt{3})^{-9} \times (\sqrt{3})^7}{(\sqrt{3})^{-4} \times (\sqrt{3})^5}$$

$$\frac{(\sqrt{3})^{-9+7}}{(\sqrt{3})^{-4+5}} = \frac{(\sqrt{3})^{-2}}{\sqrt{3}} = (\sqrt{3})^{-2-1} = (\sqrt{3})^{-3} = \frac{\sqrt{3}}{9}$$

1- Choose the correct answer:

- a. If $a - b = 9$, $x + y = 8$, then $a(x + y) - b(x + y) = \dots\dots\dots$.
 (8 , 9 , **72** , 17)
- b. Which of the following represents the factorization of the polynomial: $x^2 + x - 30$?
 [$(x+5)(x+6)$, $(x+5)(x-6)$, **$(x-5)(x+6)$** , $(x-5)(x-6)$]

2- Answer each of the following:

a. Simplify to the simplest form:

a. $2\sqrt{7}(\sqrt{7} - 3)$

b. $(\sqrt{5} - 2\sqrt{5})^2$

a. $2\sqrt{7}(\sqrt{7} - 3) = 2 \times 7 - 6\sqrt{7} = 14 - 6\sqrt{7}$

b. $5 - 4 \times \sqrt{5} \times \sqrt{5} + 20 = 5 - 20 + 20 = 5.$

b. If $x = 3\sqrt{3}$, $y = 4\sqrt{2}$, then find the numerical value of: $(x^2 + y^2)^2$

$$(x^2 + y^2)^2 = [(3\sqrt{3})^2 + (4\sqrt{2})^2]^2$$

$$= (9 \times 3 + 16 \times 2)^2$$

$$= (27 + 32)^2$$

$$= (59)^2 = 3,481$$

c. Find in \mathbb{R} the solution set of the following equations:

a. $x^2 - 2x - 8 = 0$

b. $x(x + 2) = 35$

a. $x^2 - 2x - 8 = 0$

$$(x - 4)(x + 2) = 0$$

$$x = 4 , x = -2 , \text{ then the solution set } = \{4, -2\}$$

b. $x(x + 2) = 35$

$$x^2 + 2x - 35 = 0$$

$$(x + 7)(x - 5) = 0$$

$$x = -7 , x = 5 , \text{ then the solution set } = \{-7, 5\}$$

d. If $3^x = 5$, then find the numerical value of the following:

a. 3^{x+1}

b. 3^{x-1}

c. $3^{x+1} \times 3^{x-1}$

a. $3^{x+1} = 3^x \times 3 = 5 \times 3 = 15$

b. $3^{x-1} = 3^x \times 3^{-1} = 5 \times \frac{1}{3} = \frac{5}{3}$

c. $3^{x+1} \times 3^{x-1} = 15 \times \frac{5}{3} = 25$

تطبيق



مذكرات جاهزة للطباعة

لتحميل الملفات التعليمية مجاناً للمعلم والطالب

مذكرات وملازم / مراجعات وملخصات / امتحانات / كتب الوزارة /
أدلة المعلم / دفاتر التحضير / سجلات مدرسية / أوراق تأسيس

امسح الكود بموبايلك علشان تقدر تثبت التطبيق
وتقدر ف أي وقت تحمّل ال نفسك فيه ببلاش
هيغنيك عن البحث والجروبات والقنوات الكتيرة

