

MATHEMATICS

نماذج اختبارات الأضواء

لشهر مارس

الفصل الدراسي الثاني
الصف
2
الإعدادي



1- Choose the correct answer:

2

- a What is the second proportional for the numbers 4 , 6 , 12? (18 , 8 , 6 , 2)
- b If $\frac{a}{b} = \frac{c}{d} = \frac{2}{3}$, then $\frac{a+c}{b+d} =$ ($\frac{4}{3}$, $\frac{4}{9}$, $\frac{1}{3}$, $\frac{2}{3}$)

2- Answer each of the following:

8

- a If $X = \{5\}$, $Y = \{2, 3\}$, $Z = \{2, 4, 5\}$, find each of the following:

- (1) $Y \times (Y \cup Z)$ (2) $(X \cap Z) \times (Y \cap Z)$ (3) $(Z - Y) \times (Z - X)$

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- b If $f(x) = 2x + 3$ and $f(k) = 11$, find the value of k:

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- c If x , y , 27 are in proportion, and $x - y = 30$, find each of x , y

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- d Find the solution set of the following inequality in \mathbb{R} and represent it on the number line:

$$6 - 3y \leq 2(y - 2)$$

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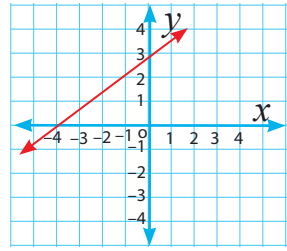
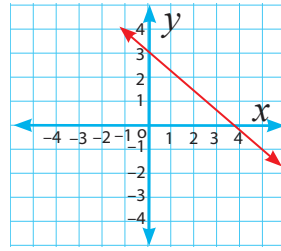
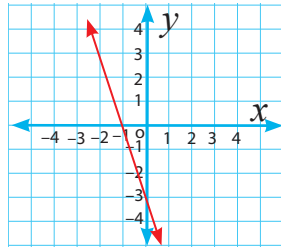
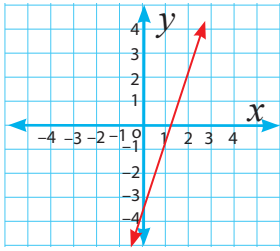
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1- Choose the correct answer:

a Which of the following graphs represent the function: $f(x)=3x -4$?



b If $(a, 3) = (-2, b)$, then $a + b = \dots\dots\dots$ ($-5, -1, 1, 5$)

2- Answer each of the following:

a If $\frac{2x + 3}{2x - 3} = \frac{2y + 5}{2y - 5}$, then prove that: $\frac{x}{y} = \frac{3}{5}$

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b Find the solution set of the following inequality in \mathbb{R} and represent it on the number line:

$$1 \leq 4 - 3(x - 1) < 13$$

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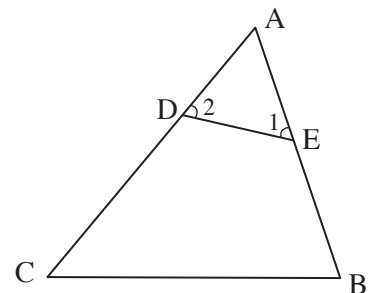
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$AC > AB, m(\angle 1) = m(\angle 2)$

prove that: $DC > EB$



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- a If $f(x) = x^2$, $g(x) = x + 4$, what is the value of: $5f(2) + 2g(5)$?
 (18 , 20 , 70 , 38)
- b In ΔABC : $1 \dots\dots\dots \frac{AB+BC}{AC}$ (> , < , = , \geq)

2- Answer each of the following:

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- a If $x : y = 2 : 5$, find the value of: $(10x + 3y) : (5x + 2y)$

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- b If: $\frac{x+y}{7} = \frac{y+Z}{5} = \frac{x+Z}{8}$, find the value of: $\frac{x+y+Z}{x-Z}$

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- c If $X \times Y = \{(3,3), (4,3), (3,7), (4,7), (3,8), (4,8)\}$, find each of the following

- (1) X, Y (2) $Y \times (X \cap Y)$ (3) $(X - Y) \times (Y - X)$
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d If R is a relation from X to Y and $R = \{(2,2), (0,2), (3,1), (4,2)\}$:

- (1) Write the relation in a table form.
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إجابات نماذج اختبارات الأضواء

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(1) $Y \times (Y \cup Z) = \{2, 3\} \times \{2, 3, 4, 5\}$
 $= \{(2, 2), (2, 3), (2, 4), (2, 5), (3, 2), (3, 3), (3, 4), (3, 5)\}$

(2) $(X \cap Z) \times (Y \cap Z) = \{5\} \times \{2\} = \{(5, 2)\}$

(3) $(Z - Y) \times (Z - X) = \{4, 5\} \times \{2, 4\}$
 $= \{(4, 2), (4, 4), (5, 2), (5, 4)\}$

- b If $f(x) = 2x + 3$ and $f(k) = 11$, find the value of k:

$\therefore f(x) = 2x + 3, f(k) = 11$

$\therefore 2(k) + 3 = 11$

$\therefore 2(k) = 11 - 3$

$\therefore 2(k) = 8 (\div 2)$

$\therefore k = 4$

- c If $x, y, 27$ are in proportion, and $x - y = 30$, find each of x, y

$\therefore x, y, 27$ are in proportion $\therefore \frac{x}{y} = \frac{y}{27}$

$\therefore \frac{x - y}{y - 27} = \frac{y}{27}$ $\therefore \frac{30}{y - 27} = \frac{y}{27}$

$\therefore y^2 - 27y = 810$ $\therefore y^2 - 27y - 810 = 0$

$\therefore (y - 45)(y + 18) = 0$ $\therefore y = 45$ or $y = -18$

$\therefore x = 75$ or $x = 12$

d Find the solution set of the following inequality in \mathbb{R} and represent it on the number line.:

$$6 - 3y \leq 2(y - 2)$$

$$\therefore 6 - 3y \leq 2(y - 2)$$

$$\therefore 6 - 3y \leq 2y - 4$$

$$\therefore -3y - 2y \leq -4 - 6$$

$$\therefore -5y \leq -10$$

$$\therefore -5y \leq -10 (\div -5)$$

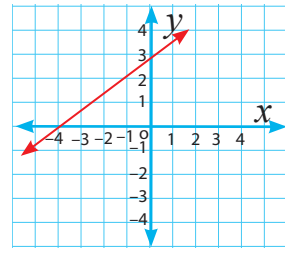
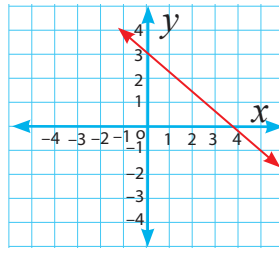
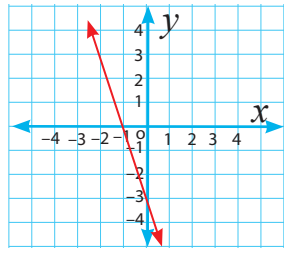
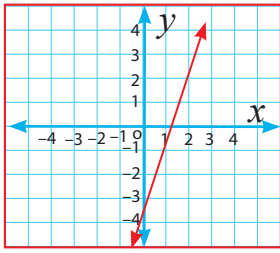
$$\therefore y \geq 2$$

\therefore The solution set = $[2, \infty[$



1- Choose the correct answer:

a Which of the following graphs represent the function: $f(x)=3x -4$?



b If $(a, 3) = (-2, b)$, then $a + b = \dots\dots\dots$ (-5 , -1 , 1 , 5)

2- Answer each of the following:

a If $\frac{2x+3}{2x-3} = \frac{2y+5}{2y-5}$, then prove that: $\frac{x}{y} = \frac{3}{5}$

$$\therefore \frac{2x+3}{2x-3} = \frac{2y+5}{2y-5}$$

$$\therefore (2x+3)(2y-5) = (2x-3)(2y+5)$$

$$\therefore 4xy + -10x + 6y - 15 = 4xy + 10x - 6y - 15$$

$$\therefore -10x - 10x + 6y + 6y = 0$$

$$\therefore -20x = -12y \quad \therefore \frac{x}{y} = \frac{-12}{-20} = \frac{3}{5}$$

b Find the solution set of the following inequality in \mathbb{R} and represent it on the number line:

$$1 \leq 4 - 3(x - 1) < 13$$

$$\therefore 1 \leq 4 - 3(x - 1) < 13$$

$$\therefore 1 \leq 4 - 3x + 3 < 13$$

$$\therefore 1 \leq -3x + 7 < 13$$

$$\therefore 1 - 7 \leq -3x < 13 - 7$$

$$\therefore -6 \leq -3x < 6$$

$$\therefore \frac{-6}{-3} \geq \frac{-3}{-3}x > \frac{6}{-3}$$

$$\therefore 2 \geq x > -2$$

$$\therefore \text{The solution set} =] -2, 2]$$



c In the following figure:

$$AC > AB, m(\angle 1) = m(\angle 2)$$

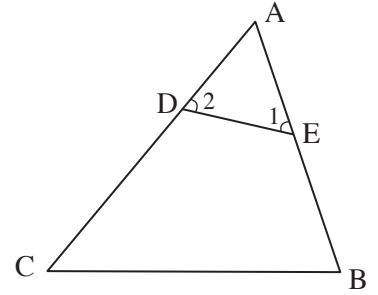
prove that: $DC > EB$

$$\therefore m(\angle 1) = m(\angle 2) \quad \therefore AD = AE$$

$$\therefore AC > AB$$

$$\therefore AC - AD > AB - AE$$

$$\therefore DC > EB$$



d Find the number which if added to each of the numbers: 7, 12, 11, 18 they become proportional numbers:

Let the number is m .

$$\therefore \frac{7+m}{12+m} = \frac{11+m}{18+m} \quad \therefore (7+m)(18+m) = (12+m)(11+m)$$

$$\therefore 126 + 25m + m^2 = 132 + 23m + m^2$$

$$\therefore 25m - 23m = 132 - 126$$

$$\therefore 2m = 6 \quad \therefore m = 3$$

\therefore The number is 3.

1- Choose the correct answer:

- a If $f(x) = x^2$, $g(x) = x + 4$, what is the value of: $5f(2) + 2g(5)$?
 (18 , 20 , 70 , 38)
- b In ΔABC : $1 \dots\dots\dots \frac{AB+BC}{AC}$ (> , < , = , \geq)

2- Answer each of the following:

- a If $x : y = 2 : 5$, find the value of: $(10x + 3y) : (5x + 2y)$
- $\therefore x : y = 2 : 5 \quad \therefore \frac{x}{2} = \frac{y}{5}$ assuming that: $\frac{x}{2} = \frac{y}{5} = k$
- $\therefore x = 2k$, $y = 5k$
- $\therefore \frac{10x + 3y}{5x + 2y} = \frac{10(2k) + 3(5k)}{5(2k) + 2(5k)}$
- $= \frac{20k + 15k}{10k + 10k} = \frac{35k}{20k} = \frac{7}{4}$
- $\therefore (10x + 3y) : (5x + 2y) = 7 : 4$
- b If: $\frac{x+y}{7} = \frac{y+Z}{5} = \frac{x+Z}{8}$, find the value of: $\frac{x+y+Z}{x-Z}$

By adding the antecedents and consequents of the three ratios:

$$\frac{x+y+y+Z+x+Z}{7+5+8} = \frac{2x+2y+2Z}{20}$$

$$= \frac{x+y+Z}{10} = \text{one of the ratios} \quad (1)$$

By multiplying the terms of 2nd ratio by (-1) and add the antecedents and consequents of 1st and 2nd ratios:

$$\frac{x+y-y-Z}{7-5} = \frac{x-Z}{2} = \text{one of the ratios} \quad (2)$$

From (1) and (2):

$$\frac{x+y+Z}{10} = \frac{x-Z}{2}$$

$$\frac{x+y+Z}{x-Z} = \frac{10}{2} = 5$$

c If $X \times Y = \{(3,3), (4,3), (3,7), (4,7), (3,8), (4,8)\}$, find each of the following

(1) X, Y (2) $Y \times (X \cap Y)$ (3) $(X - Y) \times (Y - X)$

(4) $n(Y^2)$ (5) $n(X^2)$

(1) $X = \{3, 4\}, Y = \{3, 7, 8\}$

(2) $Y \times (X \cap Y) = \{3, 7, 8\} \times \{3\} = \{(3, 3), (7, 3), (8, 3)\}$

(3) $(X - Y) \times (Y - X) = \{4\} \times \{7, 8\} = \{(4, 7), (4, 8)\}$

(4) $n(Y^2) = n(Y) \times n(Y) = 3 \times 3 = 9$

(5) $n(X^2) = n(X) \times n(X) = 2 \times 2 = 4$

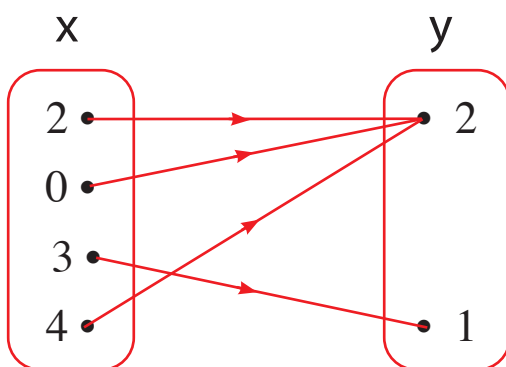
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- (1) Write the relation in a table form.
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(1) In the table form

x	2	0	3	4
y	2	2	1	2

(2)



(3) The domain = $\{2, 0, 3, 4\}$, The range = $\{2, 1\}$

تطبيق



مذكرات جاهزة للطباعة

لتحميل الملفات التعليمية مجاناً للمعلم والطالب

مذكرات وملازم / مراجعات وملخصات / امتحانات / كتب الوزارة /
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امسح الكود بموبايلك علشان تقدر تثبت التطبيق

وتقدر ف أي وقت تحمّل ال نفسك فيه ببلاش

هيغنك عن البحث والجروبات والقنوات الكثيرة



تطبيق الموبايل لتحميل الملفات

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