



Al Sharq Bright International School
Model Paper for Mid Term Exam 2017-2018

Name: _____ Subject: Mathematics Class: 9___ Date: _____

Paper – 2

A. Solve the following:

1) $4x + 2y = 50$
 $x + 2y = 20$

2) Calculate the value of x

$x - y = 1$
 $2x - y = 6$

B. Solve the following equation:

1) $x^2 + 5x = -5$

2) $x^2 - x = 20$

C. If $f(x) = x^2 + 3$ Calculate:

1) $f(-1)$

2) $f(\sqrt{2})$

D. Find the inverse of the following:

1) $q(x) = -2(-3x + 2)$

E. Seven is added to 3 times a number. The result is then doubled. If the answer is 67, calculate the number.

F. Write a formula for $jk(x)$

1) $j(x) = \frac{2x-5}{35}$

$k(x) = \frac{1}{28}x - 1$

G. Solve the inequality and illustrate your answer in a number line:

1) $6 < 2x \leq 10$

Paper – 4

A. If $h(x) = \frac{1}{3}x - 2$. Evaluate:

1) $h^{-1}\left(\frac{1}{2}\right)$

2) $h^{-1}(0)$

B. Solve the following quadratic equations using the quadratic formula:

1) $x^2 - 2x - 2 = 0$

2) $4x^2 + 2x - 5 = 0$

C. Evaluate - If $f(x) = 2x + 3$ $g(x) = 2x$

1) $f g (3)$

2) $f g (-1)$

D. Find the average speed of an object moving:

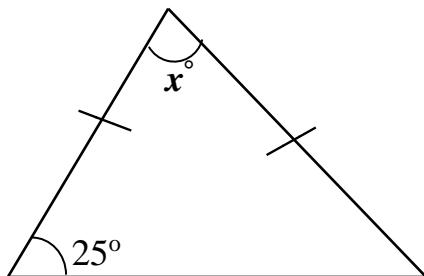
1) 50 km in 2.5 h

2) 150 km in 360 minutes.

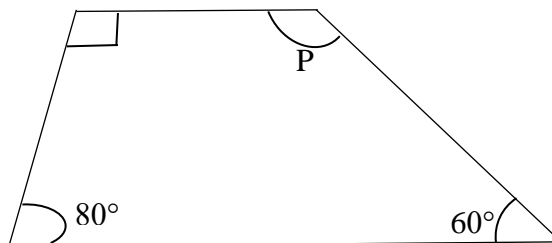
E. Draw a distance time graph for the first 20 seconds of an object travelling at 3 m/s.

F. In each of the diagrams below, calculate the size of the labelled angles.

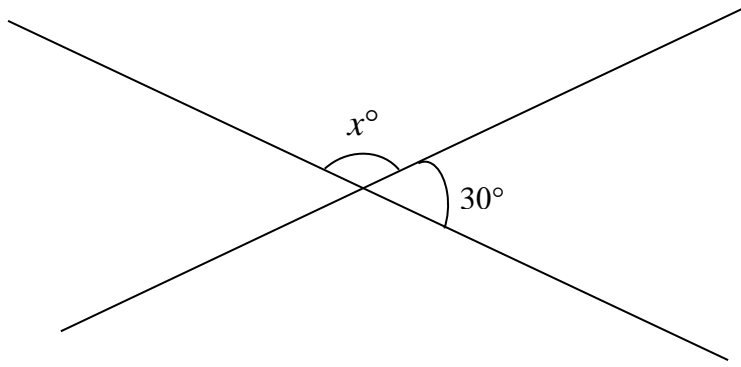
1)



2)



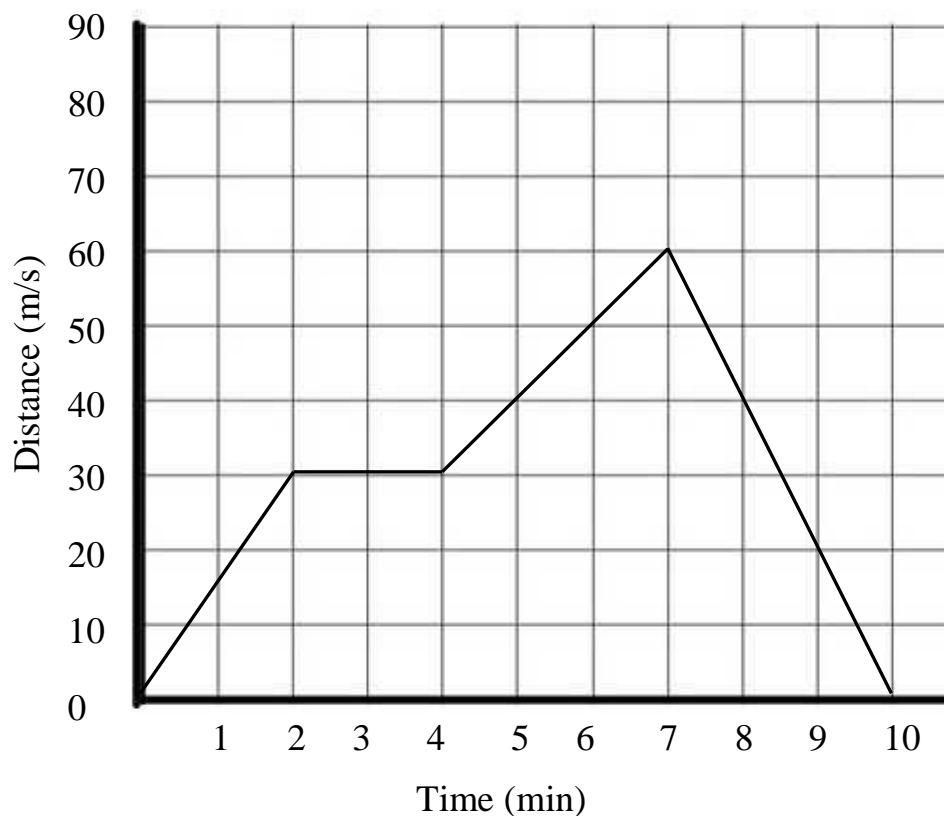
3)



G. Draw a conversion graph, convert Saudi riyals into Indian rupees based on an exchange rate of 1sar = 17 rupees

- 1) Using the graph the number of rupees equivalent to 5sar.
- 2) Using the graph, what would be the cost in sar of a drink costing 25 rupees.
- 3) If a meal costs 200 sar, use the graph to estimate its cost in rupees.

H. The speed-time graph (below) shows a speed of a car over a period of 10 minutes:



Use the graph to answer the following:

- 1) Calculate the acceleration during the first 2 minutes.
- 2) Calculate the deceleration during the last 3 minutes.
- 3) Describe the car's motion between the second and the fourth minute.
- 4) Calculate the speed of the car after 6 minutes.

Note: This is just a model, not the exam paper.