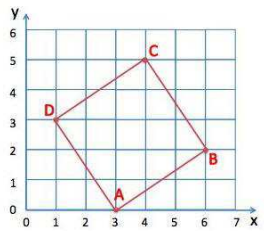
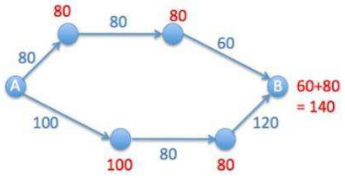
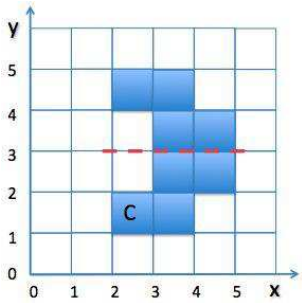
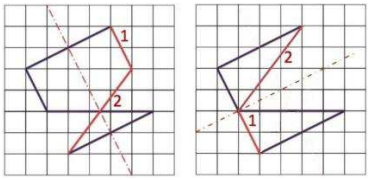
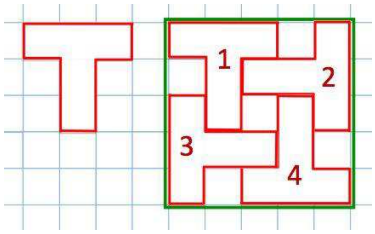
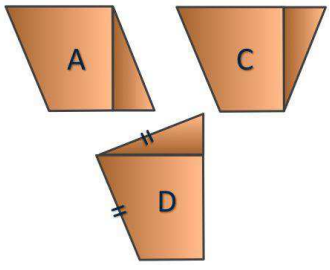
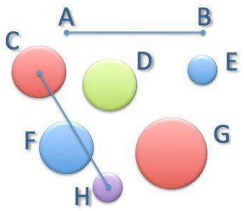
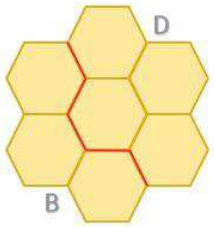
Question No.	Explanation
2	Since the month begins with a Sunday, to there will be five Sundays in the month. Required average $= \left(\frac{510 \times 5 + 240 \times 25}{30}\right)$ $= \frac{8550}{30}$ $= 285$
3	34 x 3 = 102 minutes. You need to make 34 cuts to get 35 pieces.
4	To make the one's digit on both sides to be the same, i.e. 2, the unknown number can be 4 or 9. However, 93 will make the right side of the equation much larger than the left side. The answer is 4.
5	At the end they each had 200/4 = 50 beads. Aaron had 50 + 26 - 4 = 72 beads. Bessy had 50 + 36 - 26 = 60 beads. Carli had 50 + 32 - 36 = 46 beads. Dawn had 50 + 4 - 32 = 22 beads.
11	The volume of the water in the tank is 10 * 40 * 40 cubic cm. The area of the base of the cubic shaped metal is 30 * 30 = 900 square cm. After the metal piece is placed in the fish tank, the area of the base is reduced to 402 - 302 square cm. The volume of water remains unchanged. Therefore, the height of the water level is: (10 * 40 * 40)/(402 - 302) = 22.86 cm
13	To get the largest surface area, you need to glue the smallest surfaces together, in this case 5 cm x 2 cm surfaces. Therefore, the largest surface area is: (150 x 2 + 2 x 5 + 150 x 5) x 2 = 2120 square cm
14	To get the smallest surface area, you need to glue the largest surfaces together, in this case 50 cm x 5 cm surfaces. Therefore, the smallest surface area is: (50 x 8 + 8 x 5 + 50 x 5) x 2 = 1380 square cm
15	Removing square F increases perimeter by 2 units.
16	Tunnel plus train length = 20 x 60 = 1200 meters. Therefore, tunnel length = 1200 - 240 = 960 meters.
17	Let's call Soma's speed S. 20 x 18 - S x 18 = 270 (the train's speed). Therefore Soma's speed S = (20 x18 -270) ÷ 18 = 10 meters/second.
18	At 10:00 am, Train #1 has traveled 60x2=120km. The remaining distance between the 2 trains is 650-120=430km. The time it takes for the 2 trains to meet is 430/(60+70)= 3.3 hours. 3.3 hours is 3 hours and 18.5 min. Therefore, they will meet at 1:19 pm.
19	The amount of grass that 10 sheep eat in 20 days = original amount of grass + new growth in 20 days. The amount of grass that 15 sheep eat in 10 days = original amount of grass + new growth in 10 days. Assume the amount of grass one sheep eats in one day is 1. Therefore, The amount of grass 10 sheep eat in 20 days = 1 x 10 x 20 = 200 The amount of grass 15 sheep eat in 10 days = 1 x 15 x 10 = 150 The amount of grass that grows in 10 days is 200-150 = 50 The amount of grass that grows in one day is 50/10 = 5, which can feed 5 sheep for one day; Therefore the original amount of grass is 200 - 5 X 20 =100. Since new grass grows in one day can feed 5 sheep, the original grass only needs to feed 20 sheep. (25 - 5 = 20) Therefore, 25 sheep can feed on the land for 100/(25 - 5) = 5 days

20	1 worker in one day can assemble 360/4/3=30 car seats. 900/30/3=10 days.
23	Must earn 4 x $1,000.00 + 4 x $152.00= 4608. Number of houses = 4608/$256/house = 18 houses.
24	Puppies made in 3 years 2 + 3(2) + 5(2) = 18. Money made 18 x ($200.00) = $3600.00.
25	$9.75 - $8.00 = $1.75. $1.75/$0.25/yr = 7 years. Therefore, 1989 + 7 = 1996
26	There are 7 days in a week. 200 ÷ 7 = 28 remainder 4; Therefore, 200 days from today is Wednesday
27	In 5 days the amount of rice that the restaurant consumed is: 120x5=600kg. i.e. 600kg= 4/5 of the rice bought. i.e. 1/5 of the rice bought = 150kg. Therefore, the total amount of rice the restaurant bought is 150 * 5 = 750kg
28	In 10 days the amount of flour the bakery consumed is: 60x10=600kg. i.e. 600kg = 3/4 of the flour bought. i.e. 1/4 of the flour bought = 200kg. Therefore, the total amount of flour the bakery bought is 200 * 4 = 800kg; Or 600+200 = 800kg.
29	Chocolates taken out = 2.2 - 0.7 = 1.5 kg, which is 3/4 of all the chocolates. Therefore the total weight of the chocolates is 1.5 ÷ (3/4) = 2 kg. Therefore, the weight of the box is 0.2 kg.
30	There are 31 days in January. There are 31 + 25 - 1 = 55 days from January 1st to February 25th. There are 7 days in a week. 55 ÷ 7 = 7 remainder 6; Therefore February 25th is on a Wednesday.
31	4 x (5 + 1) = 24
34	This is a multiplication series; each number is 3 times the previous number.
35	This is a simple subtraction series in which a random number, 93, is interpolated as every third number. In the subtraction series, 10 is subtracted from each number to arrive at the next.
36	
37	The points are A(0.5, 1.5), C(2, 6) and E(-1, -3)
38	
39	There are lots of different paths to check, but we can save time by looking at small groups of paths.

	From C to F directly costs $9, but going via E reduces the cost to $7. From D to F directly costs $11, but going via E reduces the cost to $7. There are only three routes to F: from C, E and D, but going via E is always cheaper. ACE is $9. ABE is $9, and ADE is $7. The cheapest path is therefore ADEF at 5 + 2 + 5 = $12
40	
41	
42	
43	
44	
45	

46	
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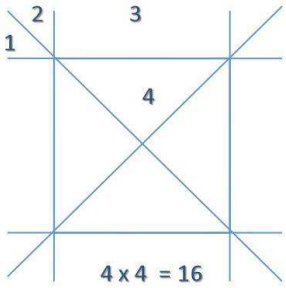
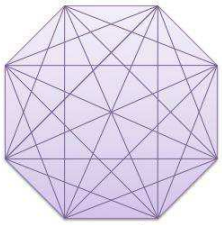
48	
49	Score 9 in three ways: 1 bag in 1 and 2 bags in 4, or 1 bag in 2, 1 bag in 3, 1 bag in 4, or 3 bags in 3.
50	5 fireworks made 3 stars and 1 made 4 stars.
51	1 x 2 = 2 1 x 2 = 2 1 x 2 = 2 2 + 2 + 2 = 6 1 + 2 + 1 + 2 + 1 + 2 = 9 2 + 1 = 3 2 + 1 = 3 2 + 1 = 3 3 x 3 x 3 = 27
52	There are 16 different ways: 1 way for 4 red; 1 way for 4 yellow; 4 ways for 3 red and 1 yellow; 4 ways for 1 red and 3 yellow; 6 ways for 2 red and 2 yellow
53	n x (n+1)/2 n=13 13x14/2=13x7=91

54	 n(n-3)/2 8 (8-3)/2 = 20
55	7 fireworks made 3 stars and 1 firework made 4 stars.
56	There are 9 tricycles and 2 go-carts, or 4 tricycles and 5 go-carts.
57	Let the son's present age be x years. Then, (38 - x) = x 2x = 38. x = 19. Son's age 5 years back (19 - 5) = 14 years.
58	Let C's age be x years. Then, B's age = 2x years. A's age = (2x + 2) years. (2x + 2) + 2x + x = 27 5x = 25 x = 5. Hence, B's age = 2x = 10 years.
59	Let the son's present age be x years. Then, man's present age = (x + 24) years. (x + 24) + 2 = 2(x + 2) x + 26 = 2x + 4 x = 22.
60	Let the present ages of son and father be x and (60 -x) years respectively. Then, (60 - x) - 6 = 5(x - 6) 54 - x = 5x - 30 6x = 84 x = 14. Son's age after 6 years = (x+ 6) = 20 years.