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Free Mathematics Diagnostic Assessment Test

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65%
High Average

✗ Incorrect | Marks: 0 / 1 | Time Taken: 12 Seconds

Q: 1 My neighbor works 5 days per week and sells three times more flowers on Friday than the other days.

How much does she sell on Friday if she earns $4900 in flower sales every week?

A. 1400
B. 1470
✓ Correct Ans **C.** 2100
✗ Your Ans **D.** 2700

Explanation

4 + 3 = 7 normal days 4900 / 7 = $700 on normal day $700 x 3 = $2100 on Friday.

Section: Money SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3375

✓ Correct | Marks: 1 / 1 | Time Taken: 2 Seconds

Q: 2 You need to cut a wooden rod to 35 pieces. It takes 3 minutes to make 1 cut. How long does it take to complete the cuts?

A. 100 mins
B. 105 mins
✓ Your Ans **C.** 102 mins
D. 106 mins

Explanation

34 x 3 = 102 minutes. You need to make 34 cuts to get 35 pieces.

Section: Numbers and Operations SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 2985

✗ Incorrect | Marks: 0 / 1 | Time Taken: 5 Seconds

Q: 3 De Fish Dine ordered tomato sauce and used 90 kilograms of tomato sauce a day to make their famous dish. After 5 days, there was 2/5 of the sauce was left.

How much tomato sauce did De Fish Dine order in the beginning?

A. 740kg
✓ Correct Ans **B.** 750kg
C. 760kg
✗ Your Ans **D.** 770kg

Explanation

90 x 5 = 450 kg was consumed in the first 5 days. 200 kg is (1 - 2/5) = 3/5 of the total weight of source. The answer is: 450 / (3/5) = 750 kg.

Section: Length, Mass and Calendar SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3115

✗ Incorrect | Marks: 0 / 1 | Time Taken: 6 Seconds

Q: 4 Four kids; Aaron, Bessy, Carli and Dawn play with beads. They start with 200 beads in all. Aaron gave Bessy 26 beads, Bessy gave Carli 36 beads, Carli gave Dawn 32 beads, and Dawn gave Aaron 4 beads. They end up with the same number of beads as each other. How many beads did Carli have at the beginning?

A. 45

✓ Correct Ans **B.** 46

✗ Your Ans **C.** 47

D. 48

Explanation

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

Section: Numbers and Operations SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3118

✗ Incorrect | Marks: 0 / 1 | Time Taken: 2 Seconds

Q: 5 Farmer Bob sells freshly picked tomatoes on Sunday. He sold 2/7 (in weight) of all his tomatoes in the first hour. In the second hour, he sold 12kg and he has 48kg left.

How many kilograms of tomatoes did he have at the beginning of the day?

A. 45kg

B. 50kg

✗ Your Ans **C.** 55kg

✓ Correct Ans **D.** 84kg

Explanation

12+48 = 60 kg; 60 is 5/7 of the tomatoes he had at the beginning of the day. 60/(5/7) = 84 kg

Section: Length, Mass and Calendar SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3153

✓ Correct | Marks: 1 / 1 | Time Taken: 3 Seconds

Q: 6 Look at the relationship between the first and last number in each set of brackets, and use that relationship to find the missing number.

Choose the correct answer from the four choices available.

(82 [56] 26), (29 [16] 13), (78 [?] 29)

A. 94

B. 44

✓ Your Ans **C.** 49

D. 99

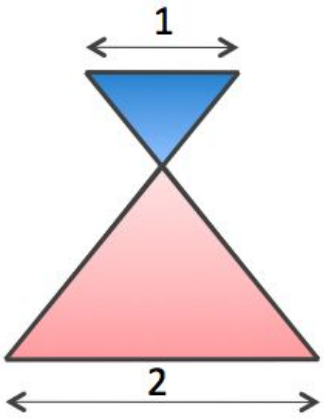
Explanation

82 and 26 are related by subtracting 26 from 82 to get the number in the middle. 29 is related to 13 in the SAME way (subtracting 13 from 29 results in 16). 78 - 29 = 49. The relationship is SUBTRACT.

Section: Number Patterns SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 2821

✓ Correct | Marks: 1 / 1 | Time Taken: 1 Second

Q: 7 Estimate how many times larger the red area is compared with the blue area.



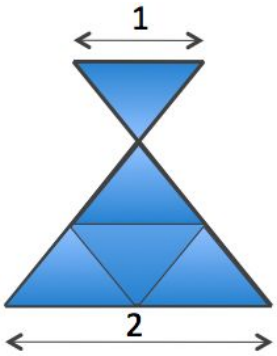
A. 2

B. 3

✓ Your Ans **C.** 4

D. 5

Explanation

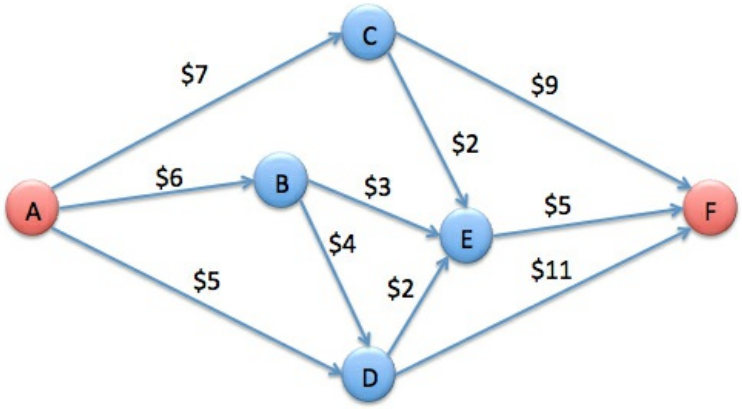


Section: Perimeter, Area and Volume SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3278

✗ Incorrect | Marks: 0 / 1 | Time Taken: 6 Seconds

Q: 8 The map shows a toll road network with the prices for each part of the road.

What is the lowest price I could pay for a trip from A to F?



A. $11

✓ Correct Ans **B.** $12

✗ Your Ans **C.** $13

D. $14

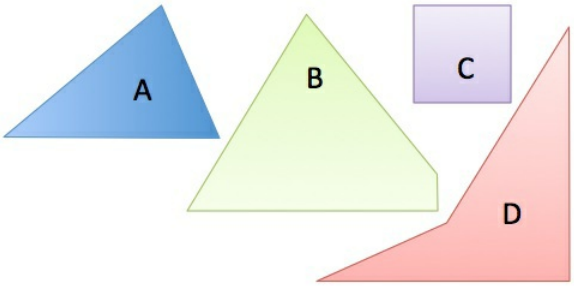
Explanation

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

Section: Angle, Position and Maps SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3452

✓ Correct | Marks: 1 / 1 | Time Taken: 1 Second

Q: 9 Three of the four pieces below can be put together to form a perfect square. What piece is the odd one out?



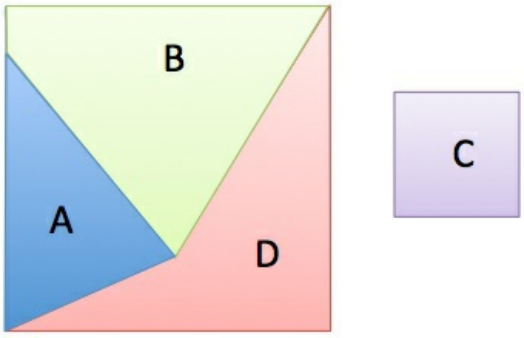
A. Piece A

B. Piece B

✓ Your Ans **C.** Piece C

D. Piece D

Explanation



Section: 2D, 3D Objects and Nets SS2 Question Type: Multiple Choice (Radiobutton) QID: 3323

✗ Incorrect Marks: 0 / 1 Time Taken: 3 Seconds

Q: 10 Andy's house, the park and Sam's house form a straight line with the park between the two houses. The two houses are 1420 meters apart. The boys want to walk to the park and play. Andy walks 60 meters a minute and Sam walks 70 meters a minute. Andy left his house 2 minutes before Sam left his, and they arrived at the park at the same time.

How far is Andy's house from the park?

✓ Correct Ans **A.** 720m

B. 710m

✗ Your Ans **C.** 700m

D. 715m

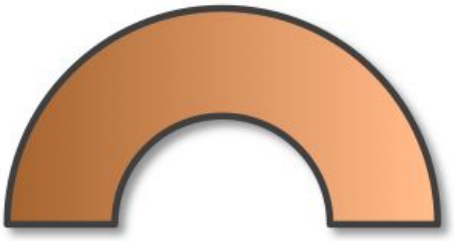
Explanation

After Andy walked for 2 minutes, the distance between him and Sam's house is 1420-2x60=1300 meters. Andy and Sam covered this distance by walking towards each other and met at the park. The time it took for them to meet is 1300/(60+70)=10 min. Therefore it takes Andy 12 minutes (2 + 10) to walk from his house to the park. The distance between Andy's house and the park is 720 meters (12 x 60 = 720).

Section: Speed, Time, Distance and Rates SS2 Question Type: Multiple Choice (Radiobutton) QID: 3147

✓ Correct | Marks: 1 / 1 | Time Taken: 1 Second

Q: 11 What is the maximum number of parts can I get if I cut the semi-ring shape using two straight cuts?



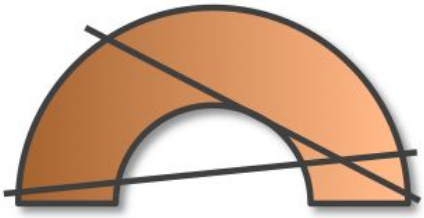
A. 4

B. 5

✓ Your Ans **C.** 6

D. 8

Explanation



Section: 2D, 3D Objects and Nets SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3316

✓ Correct | Marks: 1 / 1 | Time Taken: 2 Seconds

Q: 12 What is the next number in the series of numbers below? Replace the question mark with a number and select the correct answer from the four choices available.

81, 9, 72, 8, (?)

A. 65

B. 78

✓ Your Ans **C.** 63

D. 12

Explanation

The correct answer is 63 because the numbers are all part of the 9 times tables. 81 divided by 9 = 9, 72 divided by 9 = 8, so we are looking for what divided by 9 = 7? The answer is 63

Section: Number Patterns SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 2742

✓ Correct | Marks: 1 / 1 | Time Taken: 3 Seconds

Q: 13 Chico's cards are all different. There is a number from 1 to 8 on each card. Chico has chosen four cards that add up to 20.

How many different ways to get this done?

A. 5

B. 6

✓ Your Ans **C.** 7

D. 8

Explanation

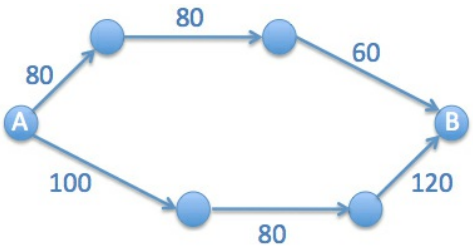
Four different cards with a total of 20 are:
1, 4, 7, 8
2, 3, 7, 8
3, 4, 5, 8
1, 5, 6, 8
2, 4, 6, 8
3, 4, 6, 7
2, 5, 6, 7

Section: Combinations SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3709

✓ Correct | Marks: 1 / 1 | Time Taken: 1 Second

Q: 14 The diagram shows a road network. All cars drive in one direction from A to B.
The numbers represent the maximum flow rate in vehicles per hour.

What is the maximum number of cars that can drive through the network every hour?



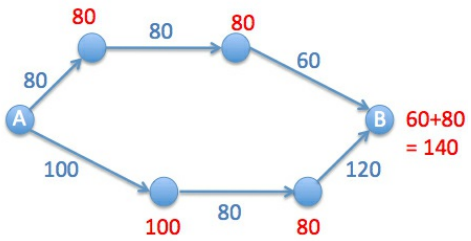
A. 120

B. 130

✓ Your Ans **C.** 140

D. 150

Explanation



Section: Angle, Position and Maps SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3458

✓ Correct | Marks: 1 / 1 | Time Taken: 5 Seconds

Q: 15 One morning grasshopper fell down a hole 2 metres deep. He would climb 1/4 of a metre every day but at night he slid down 1/8 of a metre.

At this rate, how many days until the grasshopper gets out?

✓ Your Ans **A.** 15

B. 16

C. 14

D. 13

Explanation

Each day the grasshopper goes 1/8 m until the day when the grasshopper is at 1.75m in morning, he gets out of the hole that
day. 1.75/(1/8)=14 and 14 + 1 = 15 days.

Section: Fraction, Decimal and Percentage SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3188

✓ Correct | Marks: 1 / 1 | Time Taken: 3 Seconds

Q: 16 There are 3 identical wooden blocks that are 50 cm long, 5 cm wide and 2 cm thick.

If you glue them together, what is the smallest outer surface area you can get?

✓ Your Ans **A.** 1380 cm^2

B. 1350 cm2

C. 1360 cm2

D. 1390 cm2

Explanation

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

Section: Perimeter, Area and Volume SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3112

✓ Correct | Marks: 1 / 1 | Time Taken: 11 Seconds

Q: 17 Four boys work together painting houses for the summer. For each house they paint they get $256.00. The boys work for 4 months of summer and their expenses are $152.00 per month.

How many houses must they paint for each of them to save one thousand dollars each at the end of the summer?

✓ Your Ans **A.** 18

B. 17

C. 19

D. 20

Explanation

Must earn 4 x $1,000.00 + 4 x $152.00= 4608. Number of houses = 4608/$256/house = 18 houses.

Section: Money SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3189

✗ Incorrect | Marks: 0 / 1 | Time Taken: 13 Seconds

Q: 18 Which is the single discount that is the same as three successive discounts of 20% ?

✗ Your Ans **A.** 44.8%

✓ Correct Ans **B.** 48.8%

C. 54.8%

D. 58.4%

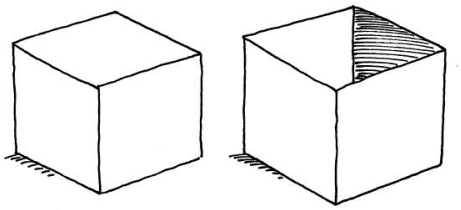
Explanation

(10.2) x (1.02) x (1.02) = 0.8 x 0.8 x 0.8 = 0.64 x 0.8 = 0.512. Therefore 1 - 0.512 = 0.488 or 48.8%

Section: Fraction, Decimal and Percentage SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3392

✓ Correct | Marks: 1 / 1 | Time Taken: 2 Seconds

Q: 19 Imagine a cube and an open box just large enough to hold it.



In how many different ways can you fit the cube into the box?

A. 12

B. 16

C. 18

✓ Your Ans **D.** 24

Explanation

A cube will fit into a box with any one of its 6 faces uppermost. Each face can be rotated into any one of 4 different positions. So there are 6 x 4 = 24 ways of fitting the cube in the box.

Section: Combinations SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3726

✓ Correct | Marks: 1 / 1 | Time Taken: 4 Seconds

Q: 20 A man has to be at work by 9:00 a.m. and it takes him 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to work.

What time should he get up?

✓ Your Ans **A.** 7:50 AM

B. 7:40 AM

C. 7:35 AM

D. 7:55 AM

Explanation

9 hours - (15 + 20 + 35) = 9 hours - 70 minutes = 7 hours + 120 minutes - 70 minutes = 7 hours and 50 minutes = 7:50 AM

Section: Speed, Time, Distance and Rates SS2 | Question Type: Multiple Choice (Radiobutton) | QID: 3182