DECK CADET MODEL QUESTION PAPER

Note:

Please note that you will find sample question/previous years questions below. Each section will have a sample of 30 questions so as to give you an idea. Correct answers are highlighted or specified below the question for your reference.

Section A: Maritime Knowledge

1. How is the vessel with a Cb of 0.8 affected by squat?

   a) Trim by stern.
   b) Trim by head.
   c) No Trimming effect.
   d) None of the above.

2. What is the sound signal of a power-driven vessel underway but stopped & making no way through the water?

   a) Shall sound at an interval of not more than 1mins, two prolonged blasts in succession with an interval of 1S between them.
   b) Shall sound at an interval of not more than 2mins, one prolonged.
   c) Shall sound at an interval of not more than 2mins, two prolonged blasts in succession with an interval of 2S between them.
   d) Shall sound at an interval of not more than 1min, two prolonged blasts in succession with an interval of 2S between them.

3. As per ROR Rule No-15 which vessel should take action?

   a) Vessel which has other vessel on her STBD side.
   b) Vessel which has other vessel on her port side.
   c) Vessel which is overtaking other vessel.
   d) Vessel which is stopped and making no way through the water.

4. Compass course 310°(C), Compass Brg- 017°(C), Variation – NIL, Deviation on 310° (C) = 0.6 E what is relative bearing & True Brg?

   a) 067°(STBD) & 017.6° (T)
   b) 076°(PORT) & 016.6° (T)
   c) 067°(PORT) & 017.6° (T)
   d) 067°(STBD) & 017.6° (T)

5. What is Leeway?

   a) Effect of current of course steered.
   b) Effect of wind on course steered.
   c) Effect of swell on course steered.
   d) None of the above.

6. What are the two dedicated VHF frequency used for AIS operation?

   a) 161.975 & 162.025 Mhz
   b) 121.975 & 122.025 Mhz
   c) 151.975 & 152.025 Mhz
   d) 181.975 & 182.025 Mhz

7. Under SOLAS regulation V/19.1 ship is required to report their LRIT information automatically to special shore data collection, storage, and distribution system at least a day?

   a) 2 times a day.
   b) 4 times a day.
   c) 1 time a day.
   d) 3 times a day.

8. What is the day light signal for vessel constrained by her draught (CBD)?

   a) Three balls in a vertical line.
   b) Three cone in a vertical line.
   c) Ball – Diamond – Ball in a vertical line.
   d) Cylinder.

9. Doppler log operates in which principle?

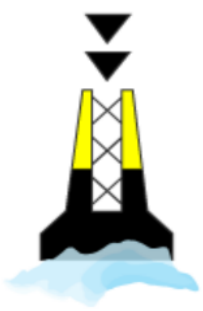
   a) Shift in range measurement.
   b) Shift in frequency measurement.
   c) Shift in wavelength measurement.
   d) Bernoulli's theorem.

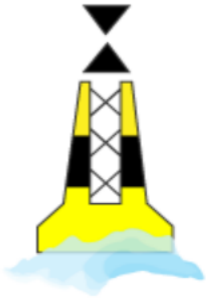
10. Ship at Anchorage heading 270°(T), Anemometer shows wind 30° from STBD, speed = 20 Knots, what is the true wind direction and speed ?

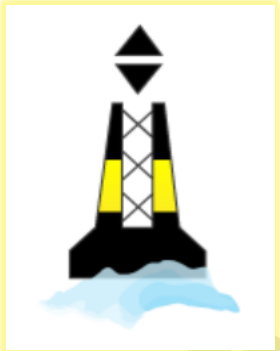
    a) 300°(T) and speed = 20 knots.
    b) 300°(T) and speed = 10 knots.

c) 030°(T) and speed = 20 knots.
d) 030°(T) and speed = 10 Knots.

11. Which of the below is East Cardinal Mark?

a) 

c) 

b) 

d) 

12. Center of Gravity of underwater volume of ship is called

a) Reserve buoyancy
b) Righting Lever
c) Centre of Buoyancy
d) Metacentre

13. What is block co-efficient?

a) Area of water plane / L X B.
b) (Above water Volume / Total Volume) x 100.
c) Under water Volume / L x B x d
d) None of the above.

14. Cylindrical tank 8.0 m high and radius 2.0 m is filled to an ullage of 1.0 m with Oil of RD – 0.8, Find the mass of Oil?

a) 35.2 T
b) 17.6 T
c) 70.4 T

d) 80.5 T

15. 1 Ton = _____ KN

a) 3.14
b) 9.81
c) 10.2
d) 7.45

16. Ship of Draft 7.0m sailing in SW enters Dock water of RD= 1.015, FWA = 250mm, What is the new draft of the vessel?

a) 7.10 m
b) 7.00 m
c) 7.25 m
d) 6.75 m

17. Which of the below is a hazard associated with Coal Cargo

a) Spontaneous Heating.
b) Emission of Methane.
c) Corrosion.
d) All of the above.

18. What is Class 3 dangerous goods as per IMDG Code

a) Flammable Liquids
b) Flammable Solids.
c) Corrosives.
d) Oxidizing Substances.

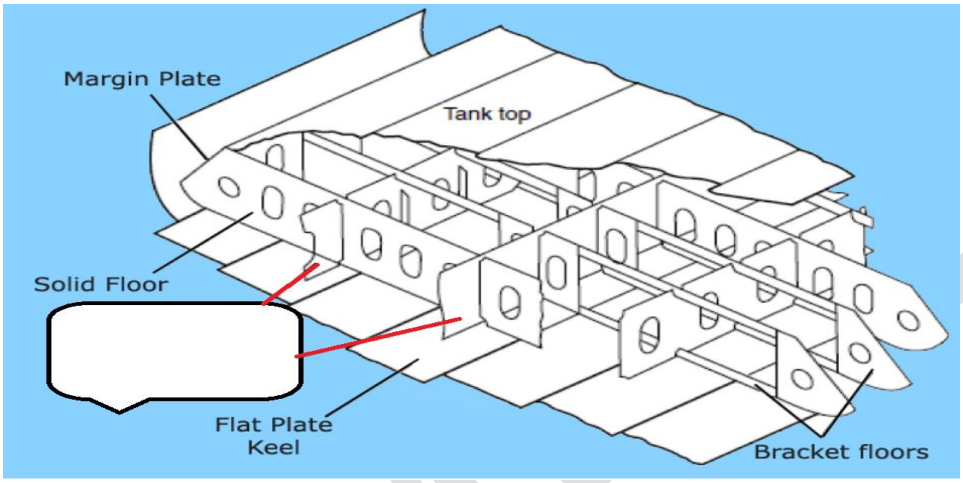
19. In which of the below condition ventilation need to be carried out to avoid sweat

a) Outside Temp (°C): Dry = 32 / Wet = 28, Hold Temp (°C): 24, Dew Point = 26.8°C.
b) Outside Temp (°C): Dry = 16 / Wet = 12, Hold Temp (°C): 14, Dew Point = 9°C.
c) Outside Temp (°C): Dry = 16 / Wet = 15, Hold Temp (°C): 14, Dew Point = 14°C.
d) None of the above.

20. Volume of Methanol loaded in cargo tank = 970 m3. Load temperature = 20°C. Density provided by surveyor = 0.7870 @ 25°C, Density correction factor = 0.0009/°C. what is the mass of Methanol loaded?

a) 759.03 MT
b) 767.76 MT
c) 763.39 MT
d) 779.03 MT

21. What is the highlighted section of the picture is called?



a) Longitudinal Stiffeners.
b) Bottom Platings.
c) Brackets.
d) Girders

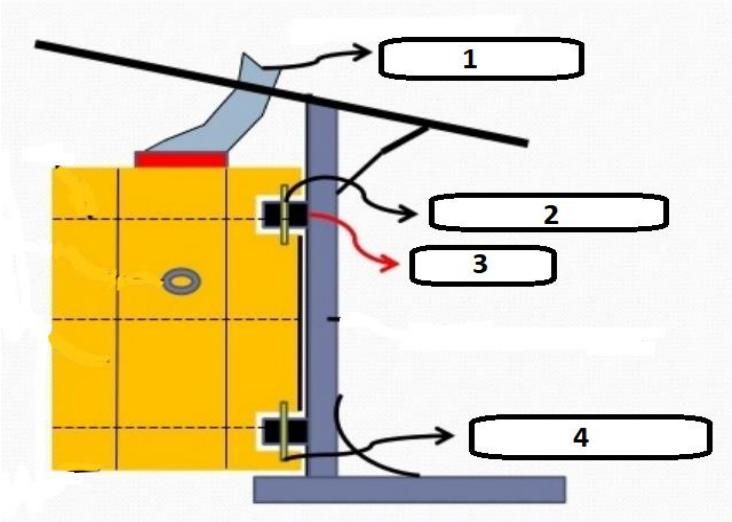
22. The tendency of the steel hull plating to flex in and out due to unequal water pressure as the bow passes through successive waves is called?

a) Slamming.
b) Pounding.
c) Panting.
d) Pitching.

23. What is the longitudinal structure that runs along much of the length down to the lower side of ship's hull to reduce the rolling motion of the ship?

a) Transom Plate.
b) Bilge keel.
c) Fins stabilizer.
d) All of the above.

24. Identify parts of rudder from below picture



a) 1- Rudder Stock, 2- Locking Pintle, 3- Gudgeon, 4 - Bearing Pintle.
b) 1- Rudder Post, 2- Bearing Pintle, 3- Gudgeon, 4- Locking Pintle.
c) 1- Horizontal Web, 2- Locking Pintle, 3- Gudgeon, 4 - Bearing Pintle.
d) 1- Rudder Stock, 2- Locking Pintle, 3- Gudgeon, 4 - Drain Plug.

25. As per MARPOL Annex-V, which garbage disposal is allowed beyond 12 NM from nearest land outside special area?

a) Paper & Paper products
b) Food waste.
c) Glass, Metal, bottles.
d) All of the above.

26. Four elements of fire tetrahedron is Heat, Oxygen, Fuel and

a) Chain reaction.
b) Oxidation.
c) Exothermic reaction.
d) All of the above.

27. Which of the below is not a Particular Sensitive Sea Area

a) The Great barrier reef.
b) Malpelo Island, Colombia.
c) South China sea.
d) The Jomard Entrance.

28. The convention which determines freeboard of ship by subdivision and damage stability calculations is

a) Damage stability convention.
b) FAL Convention.
c) Load Line Convention.
d) International convention on Tonnage measurement of ship.

29. What does Annex-III of COLREGS deals with?

a) Positioning and technical details of lights and shapes.
b) Additional signals for fishing vessels fishing in close proximity.
c) Technical details of sound signal appliances.
d) Distress signals, which lists the signals indicating distress and need of assistance.

30. Which convention is developed by IMO to prevent migration of invasive aquatic species by shipboard operation?

a) MARPOL
b) SOLAS
c) Ballast water Management
d) ISM

Section B: Maths, Aptitude and English

DC-B-01

5. $\frac{5.3472 \times 324.23}{3.489 \times 5.42}$ is the same as :

A. ○ $\frac{53472 \times 3.2423}{3.489 \times 54.2}$

B. ○ $\frac{53472 \times 32423}{3489 \times 542}$

C. ○ $\frac{534.72 \times 324.23}{34.89 \times 5.42}$

D. ○ $\frac{53472 \times 3242.3}{3489 \times 542}$

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option D

Solution:

For the expressions to be equivalent, the difference between the sum of the decimal places in the numerator and that in the denominator must be equal.

This difference is 1 in the given expression and 1 in (D).

So, (D) is the answer.

DC-B-02

7. $\frac{.009}{?} = .01$

A. ○ .0009

B. ○ .09

C. ○ .9

D. ○ 9

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option C

Solution:

$$\text{Let } \frac{.009}{x} = .01;$$

$$\text{Then } x = \frac{.009}{.01}$$

$$= \frac{.9}{1}$$

$$= .9$$

DC-B-03

16. Which of the following fractions is greater than $\frac{3}{4}$ and less than $\frac{5}{6}$?

A. $\frac{1}{2}$

B. $\frac{2}{3}$

C. $\frac{4}{5}$

D. $\frac{9}{10}$

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option C

Solution:

$\frac{3}{4} = 0.75,$

$\frac{5}{6} = 0.833,$

$\frac{1}{2} = 0.5,$

$\frac{2}{3} = 0.66,$

$\frac{4}{5} = 0.8,$

$\frac{9}{10} = 0.9$

Clearly, 0.8 lies between 0.75 and 0.833

$\therefore \frac{4}{5}$ lies between $\frac{3}{4}$ and $\frac{5}{6}$

DC-B-04

23. The least among the following is:

A. ○ 0.2

B. ○ 1 ÷ 0.2

C. ○ $0.\overline{2}$

D. ○ $(0.2)^2$

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option D

Solution:

$1 \div 0.2 = \frac{1}{0.2} = \frac{10}{2} = 5;$

$0.\overline{2} = 0.222...;$

$(0.2)^2 = 0.04$

$0.04 < 0.2 < 0.22.... < 5$

Since 0.04 is the least, so $(0.2)^2$ is the least.

DC-B-05

32. Which part contains the fractions in ascending order ?

A. $\frac{11}{14}, \frac{16}{19}, \frac{19}{21}$

B. $\frac{16}{19}, \frac{11}{14}, \frac{19}{21}$

C. $\frac{16}{19}, \frac{19}{21}, \frac{11}{14}$

D. $\frac{19}{21}, \frac{11}{14}, \frac{16}{19}$

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option A

Solution:

Clearly,

$\frac{11}{14} = 0.785$

$\frac{16}{19} = 0.842$

$\frac{19}{21} = 0.904$

Now, $0.785 < 0.842 < 0.904$

So, $\frac{11}{14} < \frac{16}{19} < \frac{19}{21}$

DC-B-06

43. $\frac{5}{9}$ of a number is equal to twenty five percent of second number. Second number is equal to $\frac{1}{4}$ of third number. The value of third number is 2960. What is 30% of first number ?

A. ○ 99.9

B. ○ 88.8

C. ○ 77.7

D. ○ None of these

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option A

Solution:

Let the third number be 2960

$\because$ Second number = $\frac{1}{4}$ of the third number = $\frac{1}{4} \times 2960 = 740$

$\frac{5}{9}$ of first number = 25% of second number

$\frac{5}{9}$ first number = $\frac{25 \times 740}{100} = 185$

$\Rightarrow$ First number = $\frac{185 \times 9}{5} = 333$

$\therefore$ 30% of 333 = $\frac{30}{100} \times 333 = 99.9$

DC-B-07

65. $0.\overline{142857} \div 0.\overline{285714}$ **is equal to :**

A. ○ $\frac{1}{2}$

B. ○ $\frac{1}{3}$

C. ○ **2**

D. ○ **10**

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option A

Solution:

$$0.\overline{142857} \div 0.\overline{285714}$$

$$= \frac{142857}{999999} \div \frac{285714}{999999}$$

$$= \left(\frac{142857}{999999} \times \frac{999999}{285714}\right)$$

$$= \frac{1}{2}$$

DC-B-08

67. The numerator of a fraction is decreased by 25% and the denominator is increased by 250%. If the resultant fraction is $\frac{6}{5}$, what is the original fraction ?

A. $\frac{22}{5}$

B. $\frac{24}{5}$

C. $\frac{27}{6}$

D. $\frac{28}{5}$

E. $\frac{30}{11}$

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option D

Solution:

Let original fraction be $\frac{a}{b}$

Now, according to the question,

$\Leftrightarrow \frac{a - a \times \frac{25}{100}}{b + b \times \frac{250}{100}} = \frac{6}{5}$

$\Rightarrow \frac{0.75a}{3.50b} = \frac{6}{5}$

$\Rightarrow \frac{a}{b} = \frac{6}{5} \times \frac{3.50}{0.75}$

$\Rightarrow \frac{a}{b} = \frac{6 \times 350 \times 100}{5 \times 75 \times 100}$

$\Rightarrow \frac{a}{b} = \frac{28}{5}$

DC-B-09

3. **A sells an article to B at a profit of 10% B sells the article back to A at a loss of 10%. In this transaction:**

A. ○ **A neither losses nor gains**

B. ○ **A makes a profit of 11%**

C. ○ **A makes a profit of 20%**

D. ○ **B loses 20%**

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: **Option B**

Solution:

First Method

Let CP was 100 for A originally

A sells article to B at 10% profit,

CP for B = 100 + 10% of 100 = 110

Now, B sells it A again with loss 10%

Now, CP for A this time = 110 - 10% of 110 = 99

A makes Profit = 110 - 99 = 11

%profit for A = $\frac{11 \times 100}{100}$ = 11%

Second Method

It could be easily shown by net percentage change graphic.

100(A) == 10%(Profit) ⇒110(B) == 10%(Loss) ⇒ 99(A)

In this transaction A makes a profit of (110 - 99 = 11%) 11%

[10% on selling to B and 1% profit on buying back from B]

DC-B-10

19. A dealer buys dry fruits at Rs. 100, Rs. 80, and Rs. 60 per kilogram. He mixes them in the ratio 3:4:5 by weight and sells at a profit of 50%. At what price per kilogram does he sell the dry fruits?

A. ○ Rs. 80

B. ○ Rs. 100

C. ○ Rs. 95

D. ○ None of these

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option D

Solution:

Let the dealer buys 3 kg, 4 kg and 5 kg.

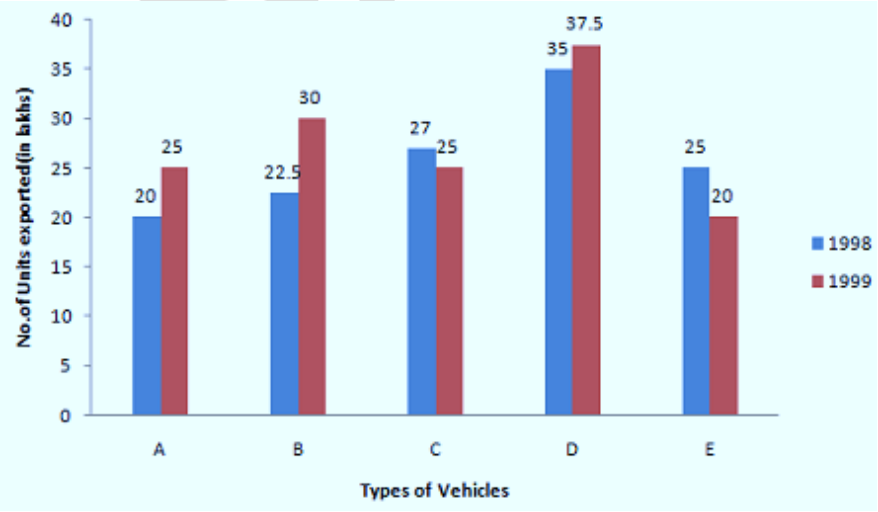
Price of total dry fruits = 3 × 100 + 4 × 80 + 5 × 60 = Rs. 920

SP = 920 + 50% of 920 = 1380

Hence,

Price of mix dry fruits per kg = $\frac{1380}{12}$ = Rs. 115

DC-B-11



Total exports in 1998 and 1999 together was equal in case of which of the following pairs of types?

- **A.** A and E
- **B.** A and D
- **C.** B and D
- **D.** None of these

Answer & Explanation

Answer: Option A

Explanation:

Total exports of
type A = 45 lakhs

type B = 52.5 lakhs

type C = 52 lakhs

type D = 72.5 lakhs

type E = 45 lakhs

A and E.

DC-B-12

The percentage change(increase or decrease) in the number of vehicles exported from 1998 to 1999 is minimum in the case of which of the following types of vehicles?

- **A.** A
- **B.** B
- **C.** C
- **D.** D

Answer & Explanation

Answer: Option D

Explanation:

Percentage change of
type A = 5/20 * 100 = 25% inc.

type B = 7.5/22.5 * 100 = 33.33% inc.

type C = 2/27 * 100 = 7.4% dec.

type D = 2.5/35 * 100 = 7.1% inc.

type E = 5/25 * 100 = 20% dec.

Hence minimum change appears in type D.

DC-B-13

The exports of type D vehicle in 1998 was what percentage of exports of E type vehicle in 1999?

- **A.** 150
- **B.** 175
- **C.** 75
- **D.** 125

Answer & Explanation

Answer: Option B

Explanation:
Required percentage = 35/20 * 100 = 175%

DC-B-14

1. His ---------- in his family's position is great but he does not boast about it.

A. status **B.** pride

C. deceit **D.** presumption

View Answer Workspace Report Discuss

Answer & Explanation

Answer: Option A

Explanation:

DC-B-15

5. It was through the Second World War that Russia ---------- herself increased ---------- in power and wealth and prestige.

A. saw, abundantly

B. notice, gullibly

C. witnessed prodigiously

D. None of these

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Answer & Explanation

Answer: Option C

Explanation:

DC-B-16

12. Knowledge is like a deep well fed by ---------- springs, and your mind is the little bucket that you drop in it.

A. perennial

B. eternal

C. sterling

D. immortal

View Answer Workspace Report Discuss

Answer & Explanation

Answer: Option A

Explanation:

DC-B-17

28. The accused ---------- having made any statement.

A. refused

B. rejected

C. declaimed

D. denied

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Answer & Explanation

Answer: Option D

Explanation:

DC-B-18

4. I read an advertisement that said
   P : posh, air-conditioned
   Q : gentleman of taste
   R : are available for
   S : fully furnished rooms

   The Proper sequence should be:

A. ○ PQRS

B. ○ PSRQ

C. ○ PSQR

D. ○ SRPQ

Answer & Solution | Discuss in Board | Save for Later

Answer & Solution

Answer: Option B
Solution:
I read an advertisement that said posh, air-conditioned fully furnished rooms are available for gentleman of taste.

DC-B-19

3. **Then**

   P : it struck me

   Q : of course

   R : suitable it was

   S : how eminently

   The Proper sequence should be:

A. ○ SPQR

B. ○ QSRP

C. ○ PSRQ

D. ○ QPSR

Answer & Solution | Discuss in Board | Save for Later

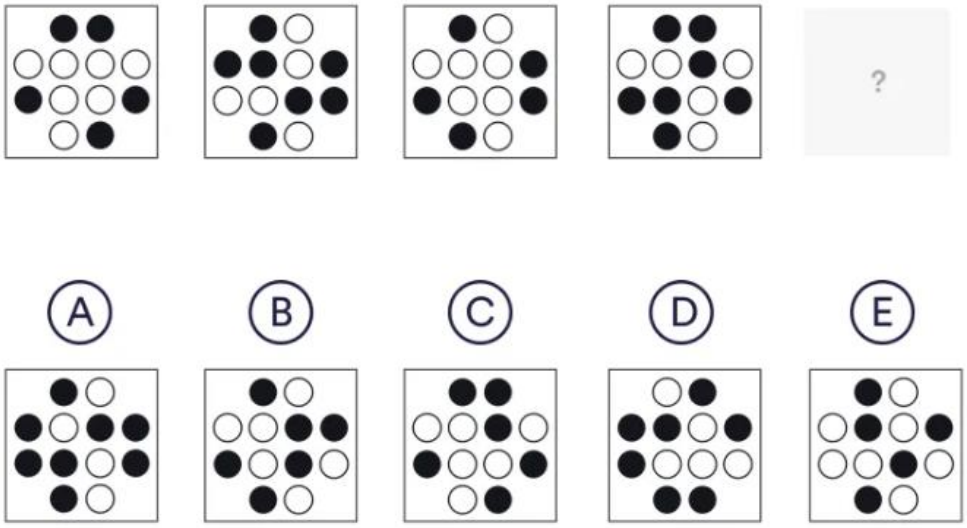
Answer & Solution

Answer: Option C

Solution:

Then it struck me how eminently suitable it was of course.

DC-B-20



Q1) Which shape comes next in the sequence?

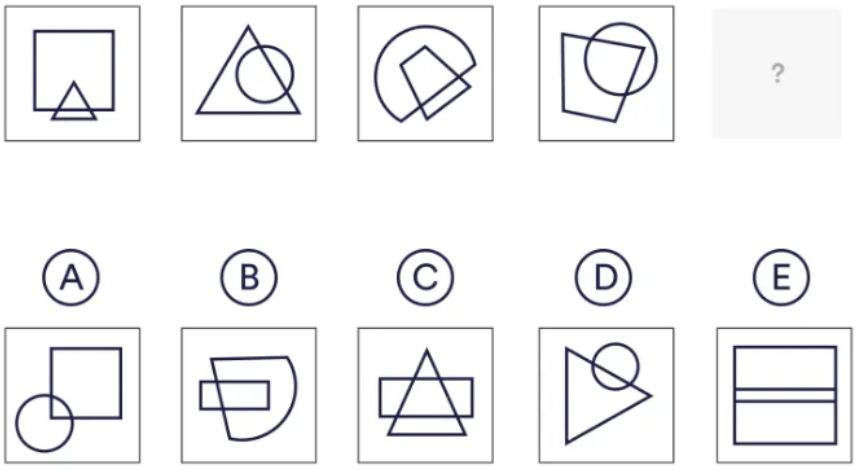
A, B, C, D, E

Answer

The black and white dots are alternating between 5 and 7 in number. In the last picture there are 5 white dots and 7 black ones, meaning the following image should contain 7 white dots and 5 black ones.

Correct Answer; E

DC-B-21



Q2) Complete the sequence.

A, B, C, D, E

Answer

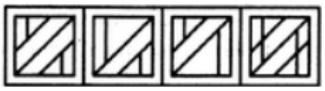
Each tile contains 2 overlapping shapes, 1 larger than the other. As the 2 shapes overlap a new, smaller shape if created inside the first large shape. The large shape in the following tile corresponds directly with this new shape that was created. When the shapes overlap the largest bisection is always within the biggest shape.

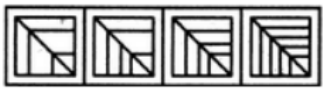
Correct Answer; B

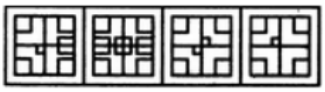
DC-B-22

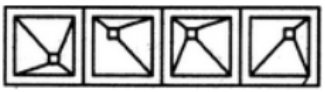
Choose the set of figures which follows the given rule.

Rule: The series becomes complex as it proceeds.

(1) 

(2) 

(3) 

(4) 

A. 1

B. 2

C. 3

D. 4

Answer: Option **B**

Explanation:

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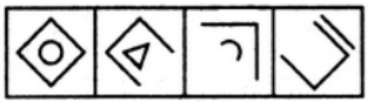
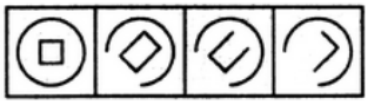
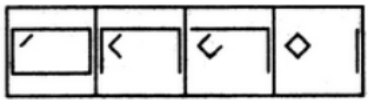
DC-B-23

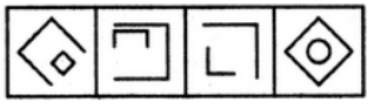
Choose the set of figures which follows the given rule.

Rule: Closed figures gradually become open and open figures gradually become closed.

(1) 

(2) 

(3) 

(4) 

A. 1

B. 2

C. 3

D. 4

Answer: Option **C**

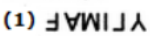
Explanation:

View Answer | Discuss | Workspace | Report

DC-B-24

Choose the alternative which is closely resembles the water-image of the given combination.

FAMILY

(1) 
(2) 
(3) 
(4) 

A. 1

B. 2

C. 3

D. 4

Answer: Option **D**

Explanation:

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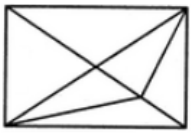
DC-B-25

Find the number of triangles in the given figure.



A. 11

B. 13

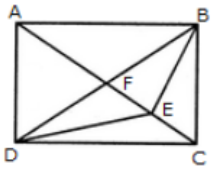
C. 15

D. 17

Answer: Option **C**

Explanation:

The figure may be labelled as shown.



The simplest triangles are AFB, FEB, EBC, DEC, DFE and AFD i.e. 6 in number.

The triangles composed of two components each are AEB, FBC, DFC, ADE, DBE and ABD i.e. 6 in number.

The triangles composed of three components each are ADC and ABC i.e. 2 in number.

There is only one triangle i.e. DBC which is composed of four components.

Thus, there are 6 + 6 + 2 + 1 = 15 triangles in the figure.

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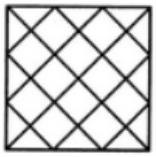
DC-B-26

Find the number of triangles in the given figure.



A. 26

B. 32

C. 36

D. 40

Answer: Option **C**

DC-B-27

Select the alternative which represents three out of the five alternative figures which when fitted into each other would form a complete square.

(1) (2) (3) (4) (5)

A. 145

B. 234

C. 245

D. 135

Answer: Option **D**

Explanation:

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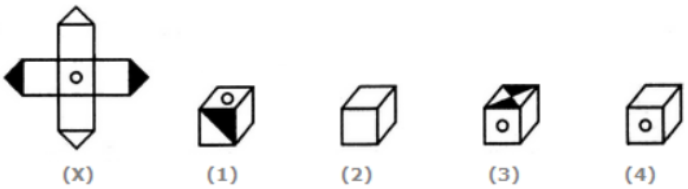
DC-B-28

5. Choose the box that is similar to the box formed from the given sheet of paper (X).



A. 1 only

B. 2 only

C. 3 only

D. 4 only

Answer: Option **D**

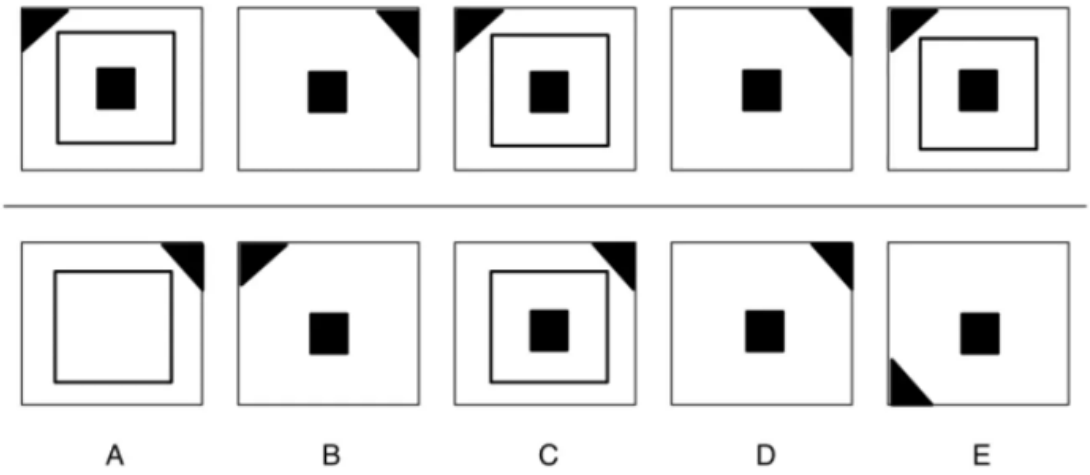
Explanation:

The fig. (X) is similar to the **Form VI**. So, when the cube is formed by folding the sheet shown in fig. (X), then ⧓ is one of the faces of the cube and this face lies opposite to the face bearing a circle. Also, one of the blank faces lies opposite to another blank face and yet another blank face lies opposite to the fourth blank face. Thus, out of the four blank faces, no three faces can appear adjacent to each other.

Clearly, the cube in fig. (1) cannot be formed since there is no face of the type ◹ , the cube in fig. (2) cannot be formed since it shows three blank faces adjacent to each other and the cube in fig. (3) cannot be formed since the face ⧓ cannot appear adjacent to the face bearing the circle. Hence, only the cube in fig. (4) can be formed.

DC-B-29

Spatial reasoning question 1:



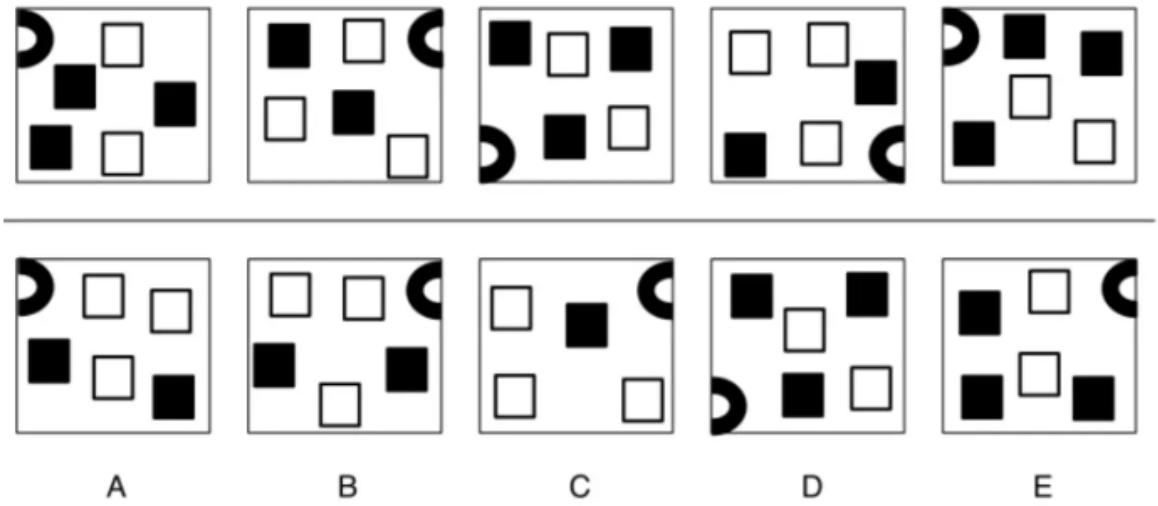
Which of the boxes comes next in the sequence?

Question 1

D. The large square overlays the small square with each alternate turn. The triangle moves from the left of the frame to the right of the frame with each turn.

DC-B-30

Spatial reasoning question 3:



Which of the boxes comes next in the sequence?

Question 3

B. Please note: squares are in no particular order within the frame. It is merely the number of squares that are important for this sequence. Shaded squares change from three to two with each turn. Unshaded squares change from two to three with each turn. Semi-circle moves from top left to top right, to bottom left to bottom right with each turn.