

X1 score

- 1 (D) The instructor wrote on the board: 3 times of Mike's weight is 15 kg more than 3 times of Donald's weight. If Donald is 65 kg and Mike is y kg, how much does Mike weigh?

(A) $y \times 3 + 65 \times 3 = 15$ (B) $65 \times 3 \times y \times 3 = 15$ (C) $(65 + y) \times 3 = 15$
 (D) $(y - 65) \times 3 = 15$ (E) $(65 - y) \times 3 = 15$

X2 score

- 2 (C) Which of the following is **incorrect** about 3-D shapes?
 (A) Not all faces of the rectangular prism are rectangles.
 (B) A cube has parallel faces.
 (C) The faces of a tetrahedron are all squares.
 (D) Cubes and rectangular prisms have 8 vertices each.
 (E) A cube has 6 faces in total.

X3 score

- 3 (E) Which of the following is **not** a factor of 24?
 (A) 2 (B) 3 (C) 6 (D) 8 (E) 10

X4 score

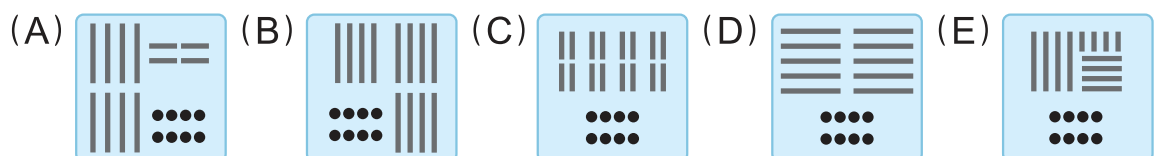
- 4 (E) If $[12, 18] = a$, $(16, 36) = b$, what is $a \div b = ?$
 (A) 2 (B) 3 (C) 4 (D) 6 (E) 9

X5 score

- 5 (B) Allen has 5 more marbles than Tim. 9 times of Allen's marbles and 8 times of Tim's marbles equal 147 marbles. How many marbles does Tim have?
 (A) 5 (B) 6 (C) 7 (D) 11 (E) 12 marbles

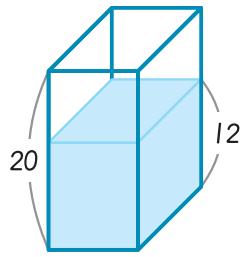
X6 score

- 6 (D) If \diagdown is an edge and \bullet is a vertex, which picture below cannot be made into a rectangular prism or cube?



X7 score

7 (C)



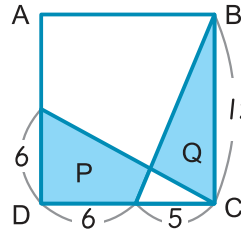
(unit: cm)

There is $1,536 \text{ ml}$ of water in the container on the left. How many more millimeters of water do we need to fill the container?

- (A) 192 (B) 921.6 (C) 1,024
(D) 2,304 (E) 2,560 ml

X8 score

8 (A)



(unit: cm)

If ABCD is a rectangle, what's the difference in area between P and Q?

- (A) 3 (B) 6 (C) 8 (D) 12 (E) 24 cm^2

X9 score

9 (C)

There's a 4-digit number 5 24, which has 3 as a factor. What is the largest number it can be?

- (A) 5924 (B) 5824 (C) 5724 (D) 5624 (E) 5524

X10 score

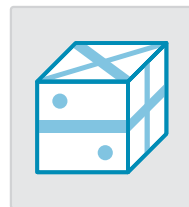
10 (C)

There are red, yellow, and green balls in a box. In total there are 8 dozen balls. If the ratio of green : red : yellow balls is 7 : 4 : 5, which of the following is **wrong**?

- (A) There are 18 more green balls than red balls.
(B) There are 54 red and yellow balls altogether.
(C) There are 43 green balls.
(D) There are 30 yellow balls.
(E) There are 24 red balls.

X11 score

11 (E)



Which of the following shows the expansion figure of the cube on the left?

- (A) (B) (C)
(D) (E)

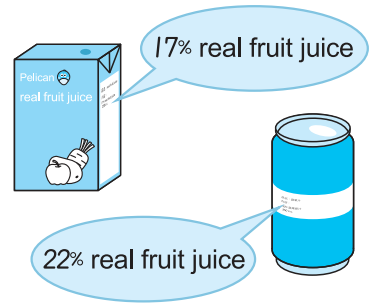


More questions are on the next page.

X12 score

12 (C) Caleb bought a carton of 250 ml juice and a can of 350 ml juice. Look at the picture on the right, what is the difference in ml of real fruit juice between the two drinks?

- (A) 4.5 (B) 5 (C) 34.5
(D) 76.5 (E) 100 ml



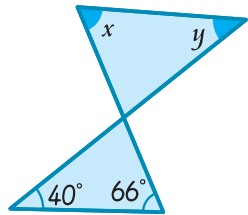
X13 score

13 (A) Which of the following produces the smallest number?

- (A) $\frac{7}{15} \times \frac{6}{17}$ (B) $\frac{12}{5} \times \frac{29}{39}$ (C) $\frac{2}{5} \div \frac{7}{17}$
(D) $\frac{24}{25} \times \frac{5}{12}$ (E) $\frac{11}{21} \div \frac{5}{12}$

X14 score

14 (D)



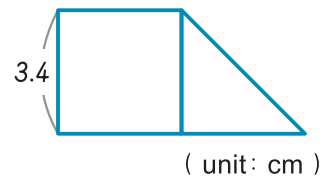
Look at the picture on the left, if we know $\angle x$ is 20° greater than $\angle y$, what is $\angle x$?

- (A) 33° (B) 43° (C) 53° (D) 63° (E) 73°

X15 score

15 (A) The trapezoid on the right is made of a square and a triangle. What's the total area of the trapezoid?

- (A) 17.34 (B) 19.66 (C) 21.54
(D) 23.12 (E) 24.72 cm²



X16 score

16 (E) Which fraction below is equivalent to $\frac{6}{7}$ and has a difference of 9 between the numerator and denominator?

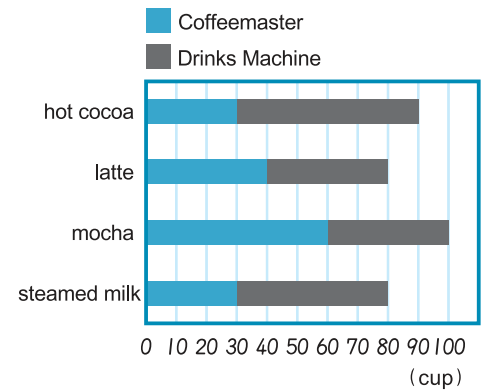
- (A) $\frac{36}{45}$ (B) $\frac{42}{49}$ (C) $\frac{45}{54}$ (D) $\frac{48}{56}$ (E) $\frac{54}{63}$



X17 score

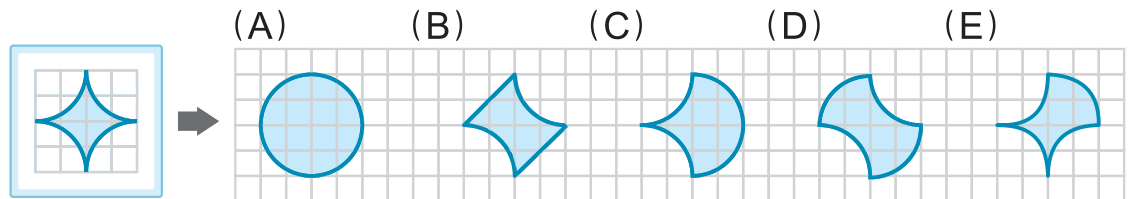
17 (D) The graph on the right shows the number of drinks sold at Coffeemaster and Drinks Machine today. Which of the following is **wrong** ?

- (A) Coffeemaster sold 160 drinks in total.
 (B) The number of latte Drinks Machine sold is equal to the number of mocha it sold.
 (C) There's a difference of 30 drinks sold between Coffeemaster and Drinks Machine.
 (D) The number of hot cocoa drinks sold at Drinks Machine is $\frac{3}{16}$ of the total number of drinks it sold.
 (E) The number of latte drinks sold at Coffeemaster is equal to the number of mocha drinks sold at Drinks Machine.



X18 score

18 (B) Which doesn't have the same perimeter as the shape on the left?



X19 score

19 (D) A pair of shoes costs 60 dollars to produce. Let's set its list price at 50% higher than the cost to produce it. If we sell it with a discount of 20%, how much will the pair of shoes sell?
 (A) 30 (B) 48 (C) 54 (D) 72 (E) 90 dollars

X20 score

20 (A) Following 19, for every pair of shoes we sell at the sale price, how much money are we earning or losing?
 (A) earn \$12 (B) lose \$12 (C) earn \$30 (D) lose \$6 (E) earn \$6



More questions are on the next page.

X21 score

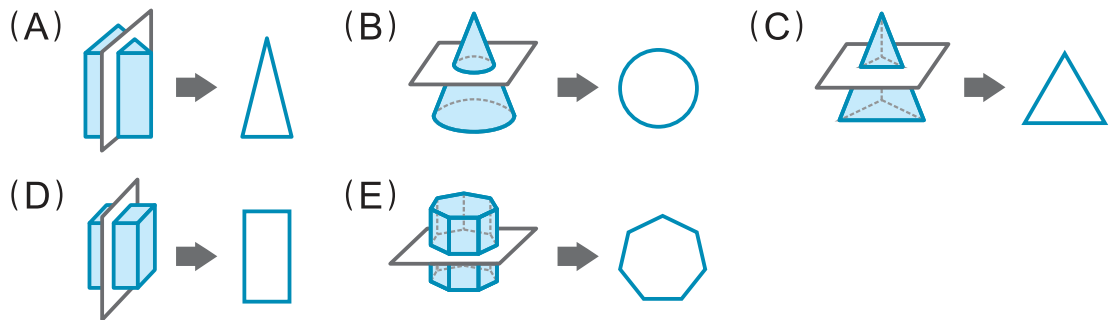
- 21 (B) Which of the following is correct?
 (A) $35,800 \text{ cm}^3 = 358 \text{ m}^3$ (B) $5 \text{ km } 28 \text{ m} = 5,028 \text{ m}$
 (C) $2 \text{ kl} = 2,000 \text{ ml}$ (D) $1,000 \text{ cm}^3 = 10 \text{ l}$
 (E) $4.5 \text{ l} = 450 \text{ ml}$

X22 score

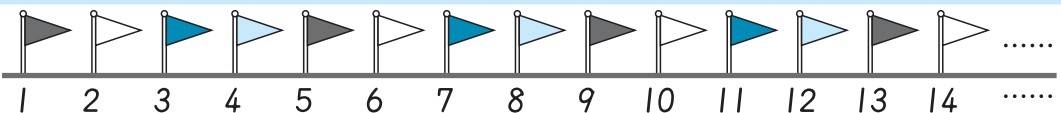
- 22 (E) If $x + 3 - 5 = 27$, $y \times 2 \div 8 = 10$, $z - y = 5$ then what's $y - x + z =$?
 (A) 24 (B) 34 (C) 46 (D) 50 (E) 56

X23 score

- 23 (A) Which of the following cross-sections is **incorrect**?




X24 score

- 24 (B) 

If the flags follow the pattern above, what colour is the 50th flag?

- (A)  (B)  (C)  (D)  (E) 

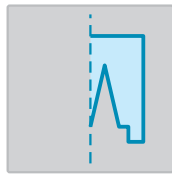
X25 score

- 25 (C) Following 24, what's the number of the grey flag () that is the closest to the 82nd flag?
 (A) 19th (B) 20th (C) 21st (D) 22nd (E) 23rd



X26 score

26 (B)



Look at the picture on the left. If the dotted line is the line of symmetry, what's the complete shape?

- (A) (B) (C)
- (D) (E)

X27 score

27 (C)



After rotating it, which picture below is the same as the picture on the left?

- (A) (B) (C)
- (D) (E)

X28 score

28 (B)

A candle takes 1 hr 24 min to fully burn out. If we light 3 of the same candles, what's the difference between the longest time and the shortest time it could possibly take to burn out the candles?

- (A) 1 hr 24 min (B) 2 hr 48 min (C) 3 hr 6 min
(D) 3 hr 12 min (E) 4 hr 12 min

X29 score

29 (D)

If the two smallest factors of A add up to be 6, and the difference between the two largest factors of A is 364, then $A = ?$

- (A) 405 (B) 420 (C) 432 (D) 455 (E) 464

X30 score

30 (A)

Peter rolled a red clay cube with edges of 10 cm into a ball. Heather made a yellow clay ball with a diameter of 10 cm into a cube. Which of the following is correct?

- (A) The red ball has a diameter longer than 10 cm.
The yellow cube has edges each shorter than 10 cm.
- (B) The red ball has a diameter shorter than 10 cm.
The yellow cube has edges each longer than 10 cm.
- (C) The red ball has a diameter longer than 10 cm.
The yellow cube has edges each longer than 10 cm.
- (D) The red ball has a diameter shorter than 10 cm.
The yellow cube has edges each shorter than 10 cm.
- (E) The diameter of the red ball and each edge of the yellow cube are 10 cm each.