3 It takes a 160-m long train 30 s to entirely cross a bridge. The train moves 20 m each second. Find the length of the bridge.

2 A train crosses two bridges at the same speed. The first bridge is 360 m long and the second bridge is 600 m long. It takes the train 12 s to entirely cross the first bridge and 18 s to entirely cross the second bridge. The train is _____ m long.

1 Calculate:

(1) $48\% \times \dfrac{5}{6} + 4 \div \dfrac{8}{5} =$ _____

2 Calculate:

(1) $\left(0.8 + \dfrac{2}{9} \times 60\%\right) \times \dfrac{1}{2} =$ _____
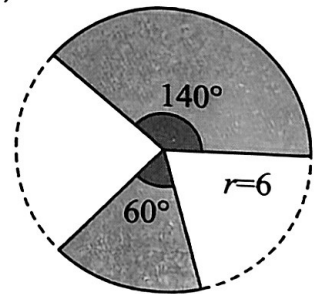
(2) $\left(0.5 + \dfrac{1}{3} - 25\%\right) \times 0.2 \div \dfrac{1}{6} =$ _____

(2) $6.3 \times 1\frac{2}{3} \div 40\% - 2.4 \div 80\% \times 1\frac{3}{4} =$ _____ .
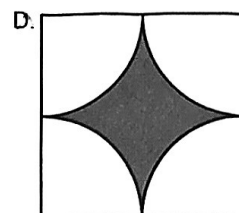
(2) $11 \div \dfrac{7}{10} + 9 \times \dfrac{10}{7} + 1\dfrac{3}{7} - 14 \times \dfrac{5}{7} = $ _____

(2) $18 \times \dfrac{3}{20} + 0.65 \times \dfrac{8}{13} - 10\% \times 18 + \dfrac{5}{13} \div 1\dfrac{7}{13} =$ _____ .

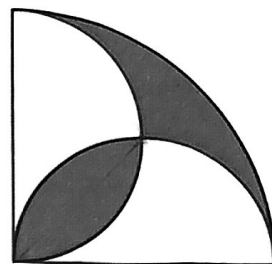**4** As shown below, the area of the shaded part is _____ . $(\pi \approx 3)$

3 In the four pictures below, the side length of each square is 1. Picture _____ has the largest shaded area. ($\pi \approx 3.14$)

A.   B.   C.   D.
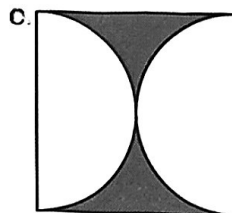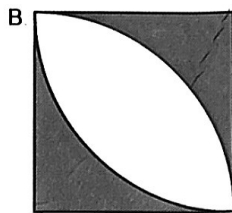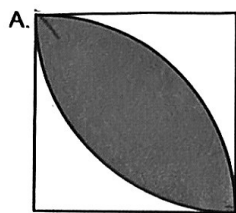
1 As shown below, the radius of the largest sector is 2 cm. The total area of the shaded parts is _____ cm². ($\pi \approx 3$)
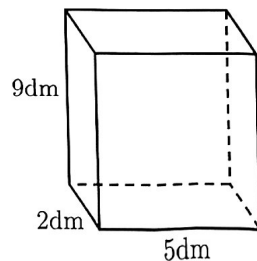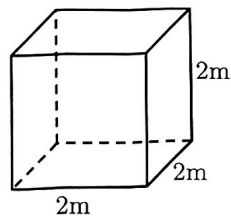
2 It takes a boat 9 h to travel 180 km upstream. Given that the speed of the current is 2 km/h, the speed of the boat is _____ km/h if it travels downstream.

① The surface areas of the cube and the cuboid below are _____ m^2 and _____ dm^2, respectively.

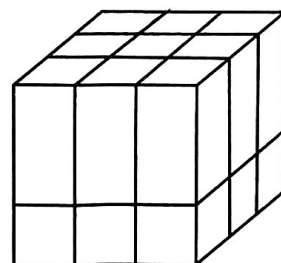A. 8, 90   B. 24, 146   C. 24, 73   D. 8, 73   E. 24, 90

2 As shown below, a cube with an edge length of 4 cm is cut into 18 cuboids. The total surface area of the 18 cuboids is _____ cm^2

2 Irene and her little brother Peter are playing with sand on the beach. Irene makes a cube with sand. The cube has an edge length of 6 cm. Her little brother wants to play a prank on her. He drops the cube into an empty bucket and shakes the bucket. Then, Irene makes a new cuboid with all of the sand in the bucket (assuming that no sand is wasted). The length and the width of the new cuboid are 9 cm and 8 cm, respectively. The surface area of the cuboid is _____ cm^2 larger than the surface area of the original cube.

1 An express and a train depart from Station A to Station B. Compared with the express, the train travels at a lower speed and it stops at another station for several minutes (the speed of the train is constant before and after the stop). The graph below shows the distance and the time that two trains travel. Given that the train arrives at Station B 9 minutes after the express, the train stays at another station for _____ minutes.
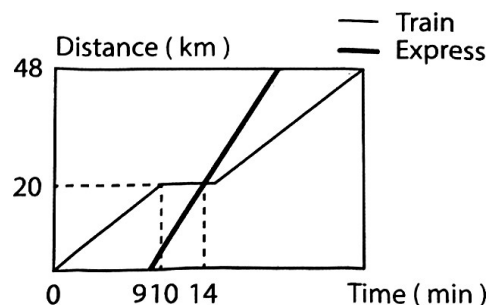

2 Peter and Bowen set off simultaneously from Street A to Street B and repeat the route back and forth to take exercise. It takes Peter and Bowen 8 minutes and 30 minutes, respectively, to travel from Street A to Street B (the time spent is the same when travelling from Street B to Street A). They meet _____ times in 30 minutes. (Meeting in the opposite directions, meeting in the same directions, and meeting in the end are all included.)
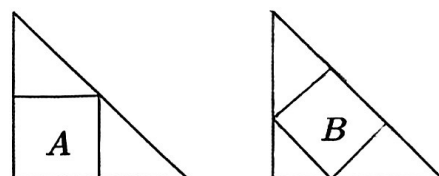
Street B ————————————————————————

Street A ————————————————————————

2 As shown below, the distance between neighboring points is 1. A shape is created by connecting some of the points. The area of the shape is _____ .
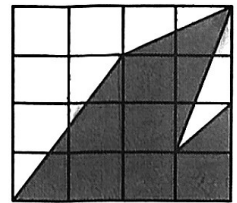
2 As shown below, there are two identical isosceles right triangles, and there is a square in each of them. The area of square A is 36. The area of square B is _____ .

A. 40　　　　　　B. 36　　　　　　C. 34　　　　　　D. 32

3, 2, 1 LIFT OFF

1 Solve the equations.

(1) $\dfrac{x+2}{25} = \dfrac{x-2}{5}$, $x =$ _____ .

3 $\dfrac{x-1}{8} + \dfrac{x-1}{4} = \dfrac{x-3}{2} - 1$, $x =$ _____ .

2 x and y are whole numbers larger than 0 and smaller than 10.

$\dfrac{(x+3)}{7} = \dfrac{(y+2)}{2} - \dfrac{3}{7}$. Find the possible value(s) of x and y.