Question 1

According to the basic rules, calculate: 12+4·(3/6)-5 =

A. 24

B. 13

C. 9

Question 2

Which statement is correct? 7 divided by 8 is.....

A. 1.14

B. 0.114

C. 0.875

Question 3

Calculate: 368 / 4600 =

A. 1692800

B. 8

C. 0.08

Question 4

Calculate: (3/5) · (1/2) =

A. 5/3

B. 6/5

C. 3/10

Question 5

Calculate the average of the numbers: 60, 80, 20, 50, 70, 30, 40.

A. 50

B. 55

C. 60

Question 6

The area of a circle with a radius of 6cm is .... (Pi=3.14)

A. 113,04 cm^2

B. 28.26 cm^2

C. 37,68 cm^2

Question 7

√144 =

A. 11

B. 8

C. 12

Question 8

8^2 =

A. 64

B. 4

C. 16

Question 9

Calculate a-a-b+c =

A. -b + c

B. b + c

C. -2a-b+c

Question 10

Calculate: ab / d + d / c =

A. ab + 1 / c

B. ab + d

C. (abc+d2) / (cd)

Question 11

Calculate:

$$\left(\frac{2x}{y}\right) \Big/ \left(\frac{-6y}{ax}\right)$$

A. - (a / $3y^2$) · x

B. -ax^2 / $3y^2$

C. 2ax / $6y^2$

Question 12

Calculate: 3x / 4y - 5x / y =

A. -17x / 4y

B. -2x / (4y2)

C. 1/4 (x-20) / y

Question 13

Calculate: -3(a-b)

A. -3a+b

B. -3a+3b

C. -3a-3b

Question 14

Calculate: (a-b) · (a-b) =

A. $a^2 - 2ab + b^2$

B. $a^2 - 2ab - b^2$

C. $a^2 + b^2$

Question 15

Calculate 1/3 a + 1/4 a =

A. 7/12 a

B. 1/12 a

C. 1/3 a

Question 16

Calculate 1/(6a) · 3a =

A. 1/18 a

B. 1/2

C. 1/2 a

Question 17

Rearrange according to the rules of linear equations: 5x -5 = -2x + 3x + 15

A. 6x = 20

B. 6x = 10

C. 4x = 20

Question 18

Calculate according to the rules of linear equations: 3x - 25+ (2x) = 5x · (4+9)

A. x= - 5/12

B. 186x = -25

C. x = (-25/186)

Question 19

41/2 =

A. 4 · 0,5

B. 20,5

C. 206/10

Question 20

26(10) = ... (2)

A. 11010

B. 01010

C. 11011

Question 21

Solve: $x^2 - 5x - 14 = 0$

A. x = 7 or x = -2

B. x = -7 or x = 2

C. x = 7 or x = 2

Question 22

Solve: 2log16 = x

A. x = 4

B. x = 8

C. x = 3

Question 23

The tangent of an angle is:

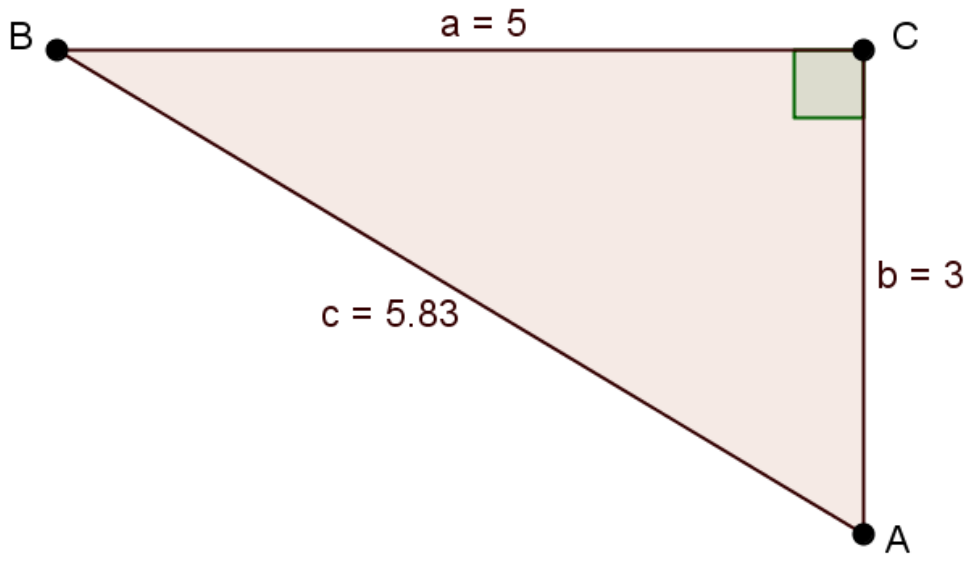
A. opposite divided by the hypotenus.

B. adjacent divided by the hypotenus.

C. opposite divided by the adjacent.

Question 24

The tangent of angle A is?



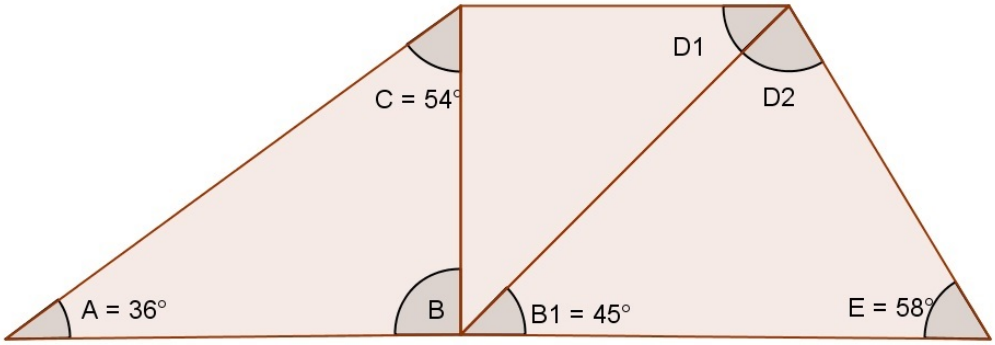
A. 3/5

B. 147/50

C. 5/3

Question 25

Determine the sum of the angles D1 + D2 ?



A. 120 degrees
B. 122 degrees
C. 121 degrees

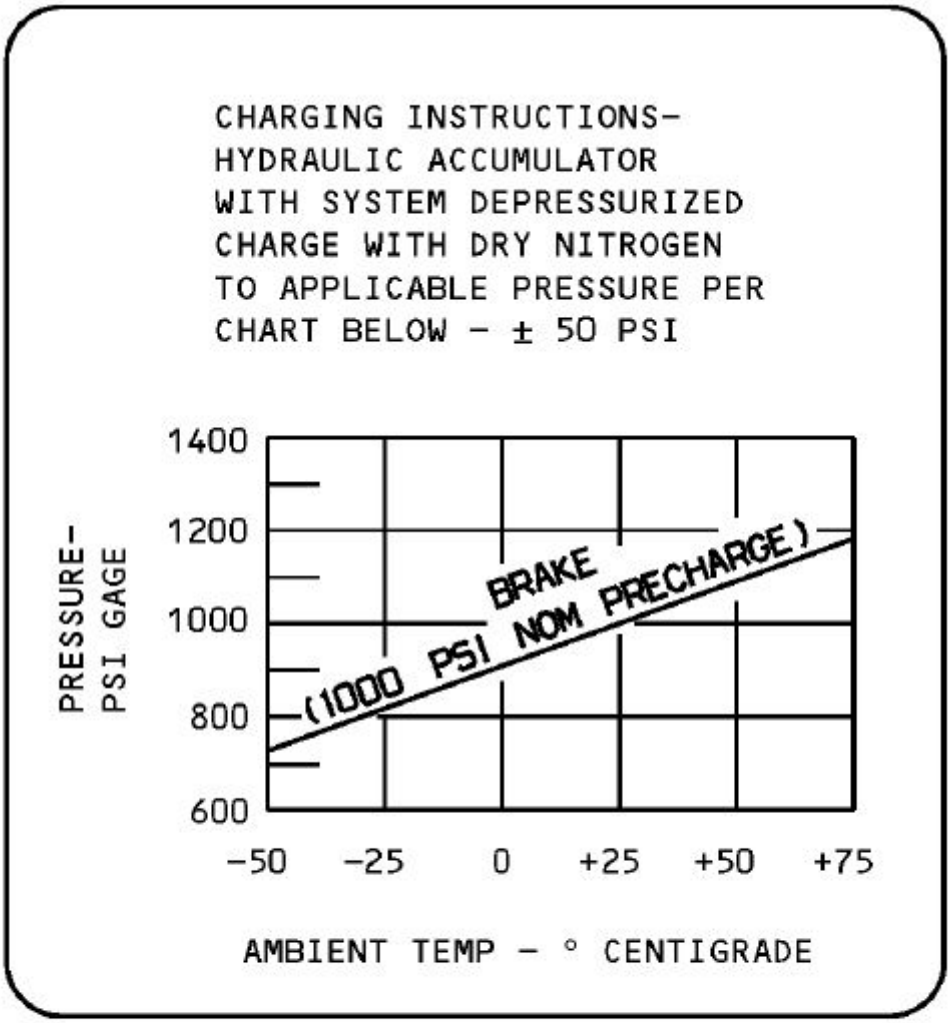
Question 26

Equation: y = 0,5x-1

A. The equation represents a horizontal straight line.
B. The equation represents a vertical straight line.
C. The equation represents a line with a slope.

Question 27

Calculate the pressure at 30 °C:



CHARGING INSTRUCTIONS PLACARD

A. 1020 Psi
B. 1100 Psi
C. 1000 Psi

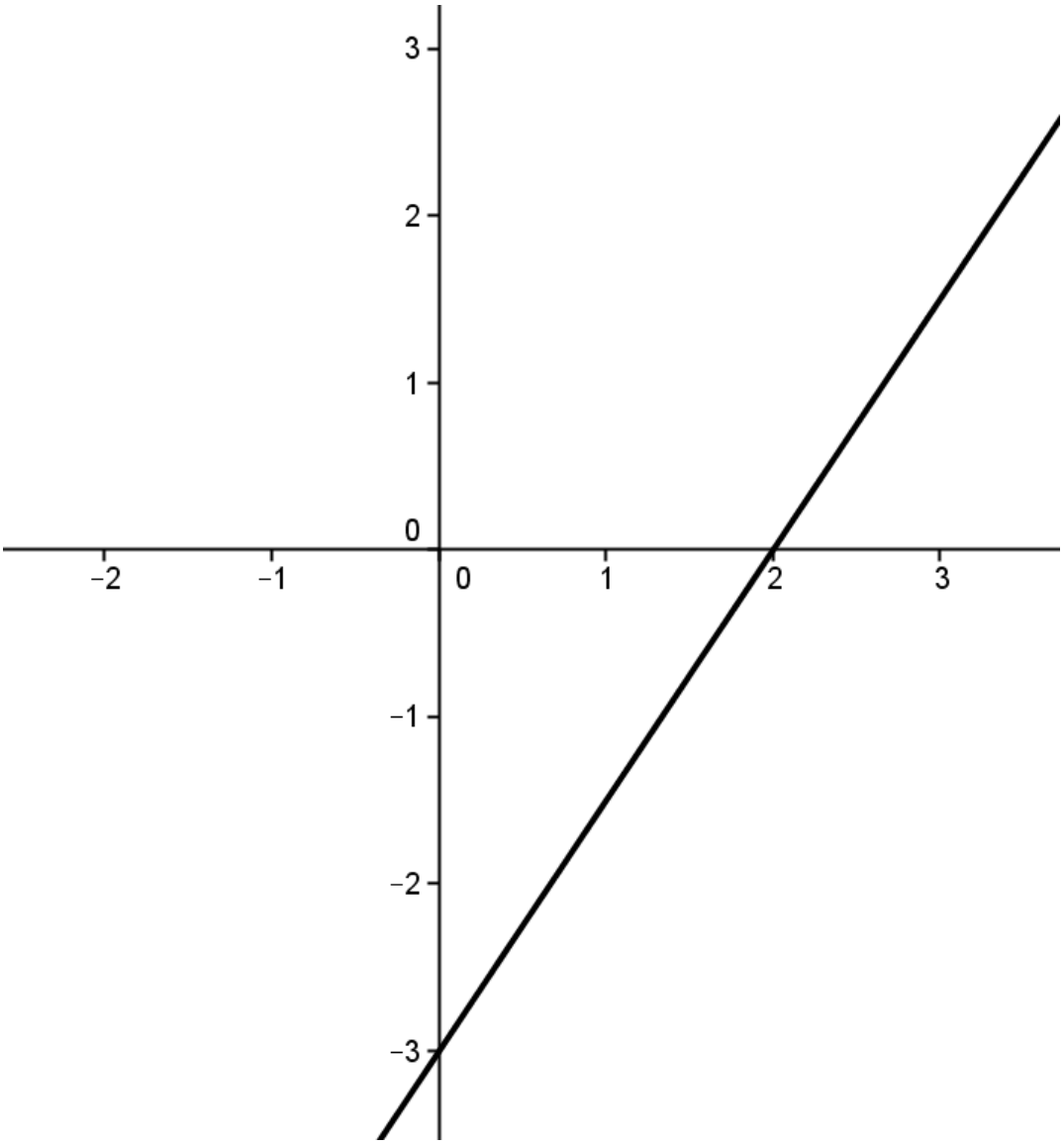
Question 28

Calculate the slope of the straight line (y=ax+b) that passes through the points (2,3) and (5,9).

A. a = -2/6
B. a = 0,5
C. a = 2

Question 29

Determine the function of the graph in the figure below.



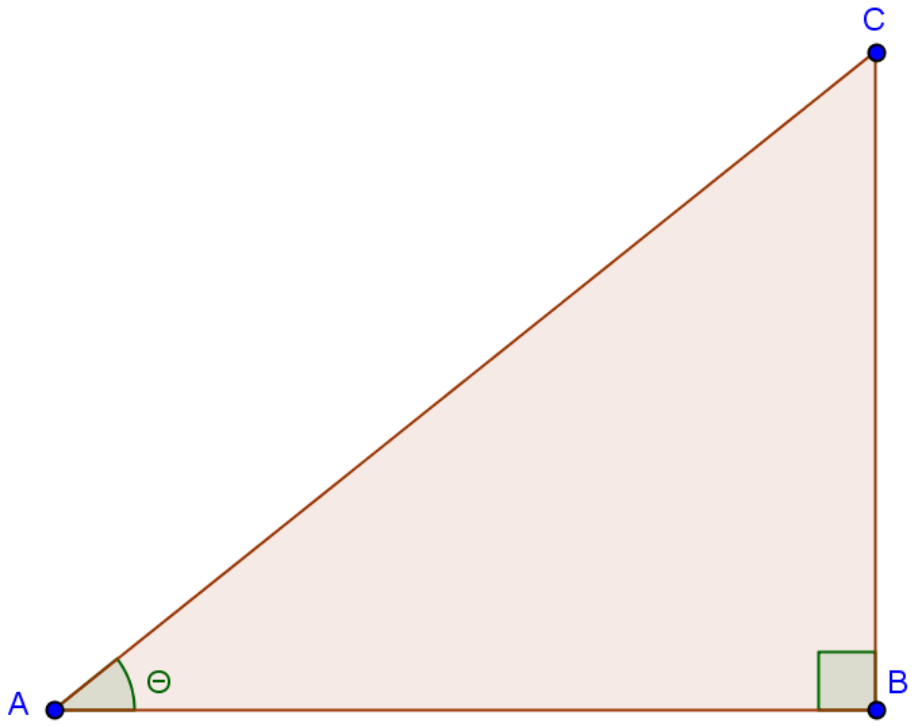
A. y = -1,5x - 3

B. y = 1,5x + 3

C. y = 1,5x - 3

Question 30

The Sin of the angle CAB = 3 / 5. Calculate the adjacent.



A. 2

B. 4

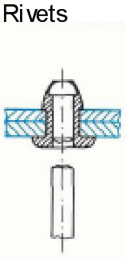
C. 3,2

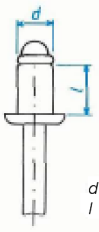
Question 31

Which rivet do we use to fasten two steel plates, one of 6 mm and the other of 4 mm thickness. The hole diameter is 5 mm.

Rivets

Check DIN 7337





b = joint thickness

d = diameter rivet
l = shaft length

sizes in mm

d = 3		d = 4		d = 5		d = 6	
l	*b*	*l*	*b*	*l*	*b*	*l*	*b*
aluminum rivet							
3,5	1 - 1,5	4	1 - 1,5	5	1 - 2,5	8	1- 4
4,5	1,5- 2,5	5	1,5- 2,5	6	2,5-3,5	10	4- 6
5,5	2,5- 3,5	6	2,5- 3,5	8	3,5- 5	12	6- 8
6,5	3,5- 4,5	7	3,5- 4,5	10	5 -7	16	8-12
8	4,5- 6,5	8	4,5- 6	12	7 - 9,5	18	12-14
10	6,5- 8	10	6 - 7,5	14	9,5-11,5	22	14-18
12	8 -10	12	7,5-10	16	11,5-13		
steel rivet							
4,5	1 -2	6	1-3	8	2,5- 4,5		
6,5	1,5-3,5	8	3-5	10	4,5- 6,5		
8	3,5-5	10	5-7	12	6,5- 8,5		
10	5 -7	12	7-9	14	8,5-10,5		

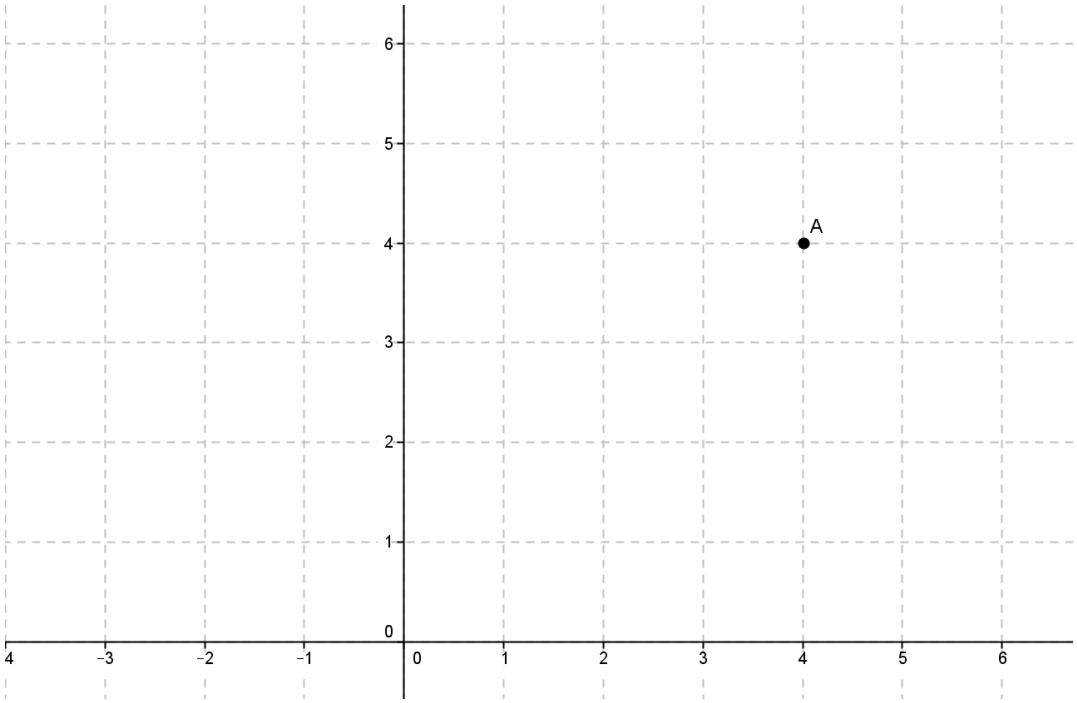
A. The length of the rivet is 14 mm.

B. The length of the rivet is 10 mm.

C. The length of the rivet is 12 mm

Question 32

Determine the polar coordinates of point A in the drawing.



A. (√32; 45 degrees)

B. (2;-45 degrees)

C. (4; -45 degrees)