

Question block created by wizard

This exam contains 32 questions

1. According to the basic rules, calculate: $(2 + 4) \cdot 3 : 6 - 5 =$

- (a) -1
- (b) 18
- (c) -2

If choice c is selected set score to 1.

2. Which statement is correct? 3 divided by 4 is..

- (a) 1,33
- (b) 0,25
- (c) 0,75

If choice c is selected set score to 1.

3. Calculate: $128 \cdot 173 =$

- (a) 22144
- (b) 3460
- (c) 9344

If choice a is selected set score to 1.

4. Calculate: $\frac{2}{4} \cdot \frac{1}{4} =$

- (a) $\frac{1}{8}$
- (b) 2
- (c) $\frac{1}{2}$

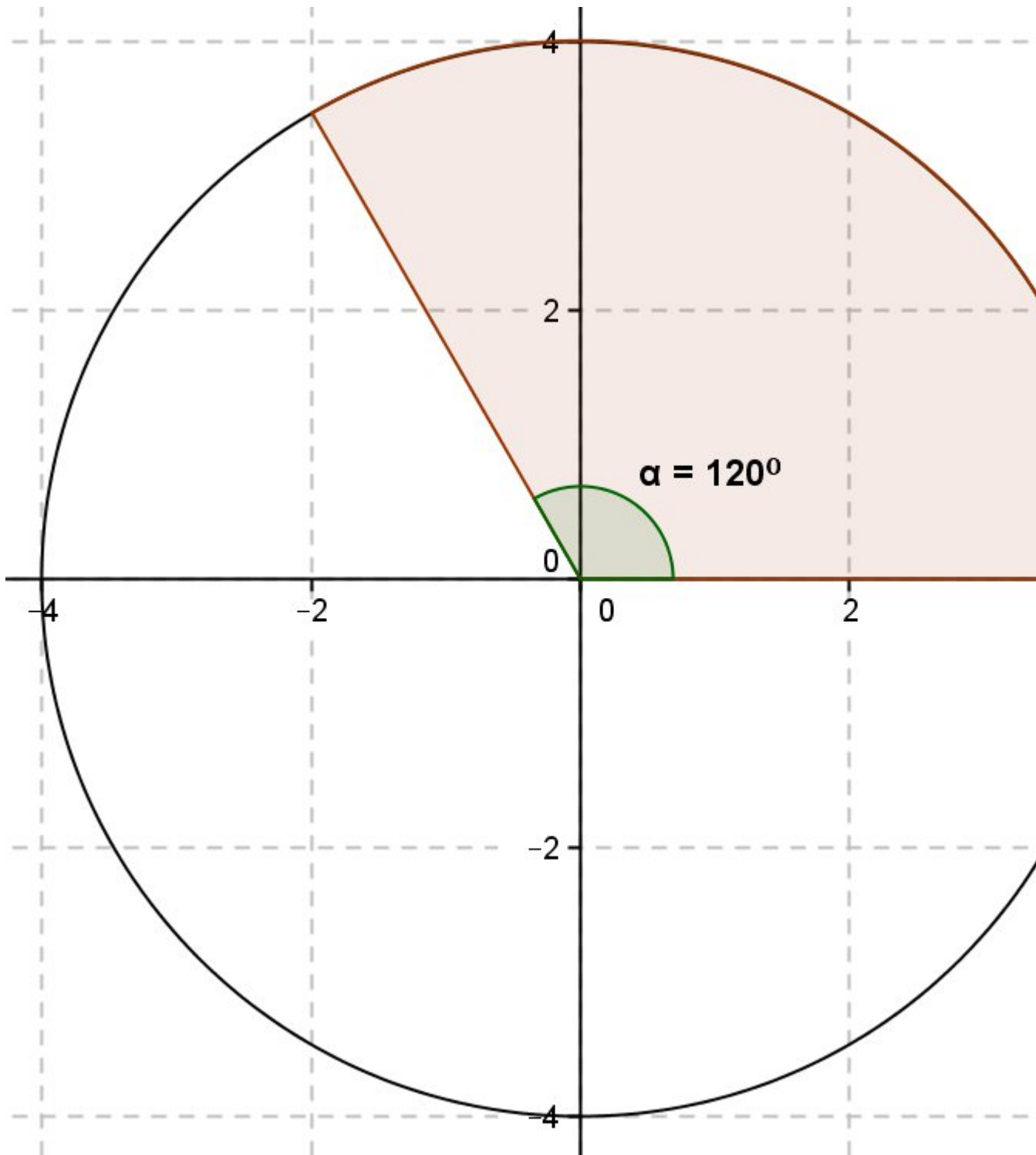
If choice a is selected set score to 1.

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

- (a) 50
- (b) 55
- (c) 60

If choice a is selected set score to 1.

6. Calculate the area of the circle-sector given in the picture.



- o (a) $4^4/9\pi$
- o (b) $3^5/9\pi$

- (c)
 $5^{1/3}\pi$

If choice c is selected set score to 1.

7. $\sqrt{(64)} =$

- o (a) 10
- o (b) 2
- (c) 8

If choice c is selected set score to 1.

8. $7^2 =$

- o (a) 14
- o (b) 3,5
- (c) 49

If choice c is selected set score to 1.

9. Calculate $a-a-b+c =$

- (a) $-b + c$
- o (b) $b + c$
- o (c) $-2a-b+c$

If choice a is selected set score to 1.

10. Calculate: ${}^2/a + {}^3/b =$

- (a) $(3a+2b) / (ab)$
- o (b) $(3a+2b) / (a+b)$
- o (c) $5 / (a+b)$

If choice a is selected set score to 1.

11. Calculate: $a^b / b \cdot a / c =$

- (a) a^2 / c
- o (b) c
- o (c) $1/c$

If choice a is selected set score to 1.

12. Calculate: $\frac{3x}{4y} + \frac{5x}{y}$

- (a) $\frac{8x}{4y}$
- (b) $\frac{8x}{4y^2}$
- (c) $\frac{23x}{4y}$

If choice c is selected set score to 1.

13. Calculate: $3(a+b) =$

- (a) $3a + 3b$
- (b) $3a+b$
- (c) $3b+a$

If choice a is selected set score to 1.

14. Calculate: $(a+b) \cdot (a+b) =$

- (a) $a^2 + b^2$
- (b) $2ab + b^2$
- (c) $a^2 + 2ab + b^2$

If choice c is selected set score to 1.

15. Calculate $\frac{1}{3}a + \frac{1}{4}a =$

- (a) $\frac{1}{12}a$
- (b) $\frac{1}{3}a$
- (c) $\frac{7}{12}a$

If choice c is selected set score to 1.

16. Calculate: $\frac{1}{6}a \cdot \frac{1}{3}b =$

- (a) $1 / (18ab)$
- (b) $\frac{1}{18} \cdot ab$
- (c) $18ab$

If choice b is selected set score to 1.

17. When solving linear equations, the first step to do is (if available)

- (a) eliminate the brackets.

- (b) Transfer from right hand side to left hand side and vice versa, make sure that only the variable on the left side remains.
- (c) rearrange both sides.

If choice a is selected set score to 1.

18. Solve according to the rules of linear equations: $5(3k-7)+7 = 7(2k-4)$

- (a) $15k - 35 = 14k - 28$
- (b) $29k = -56$
- (c) $k = 0$

If choice c is selected set score to 1.

19. $4^{1/2} =$

- (a) $4 \cdot 0,5$
- (b) $\sqrt{4}$
- (c) $2\sqrt{2}$

If choice b is selected set score to 1.

20. $17_{(10)} = \dots\dots\dots_{(8)}$

- (a) 21
- (b) 17
- (c) 20

If choice a is selected set score to 1.

21. Solve: $x^2 - 2x = 8$

- (a) $x = 4$ or $x = -2$
- (b) $x = 4$ or $x = 2$
- (c) $x = -4$ or $x = 2$

If choice a is selected set score to 1.

22. We can write: $b^x = y$ as.....

- (a) ${}^b\log(y) = x$
- (b) ${}^x\log(b) = y$
- (c) ${}^y\log(b) = x$

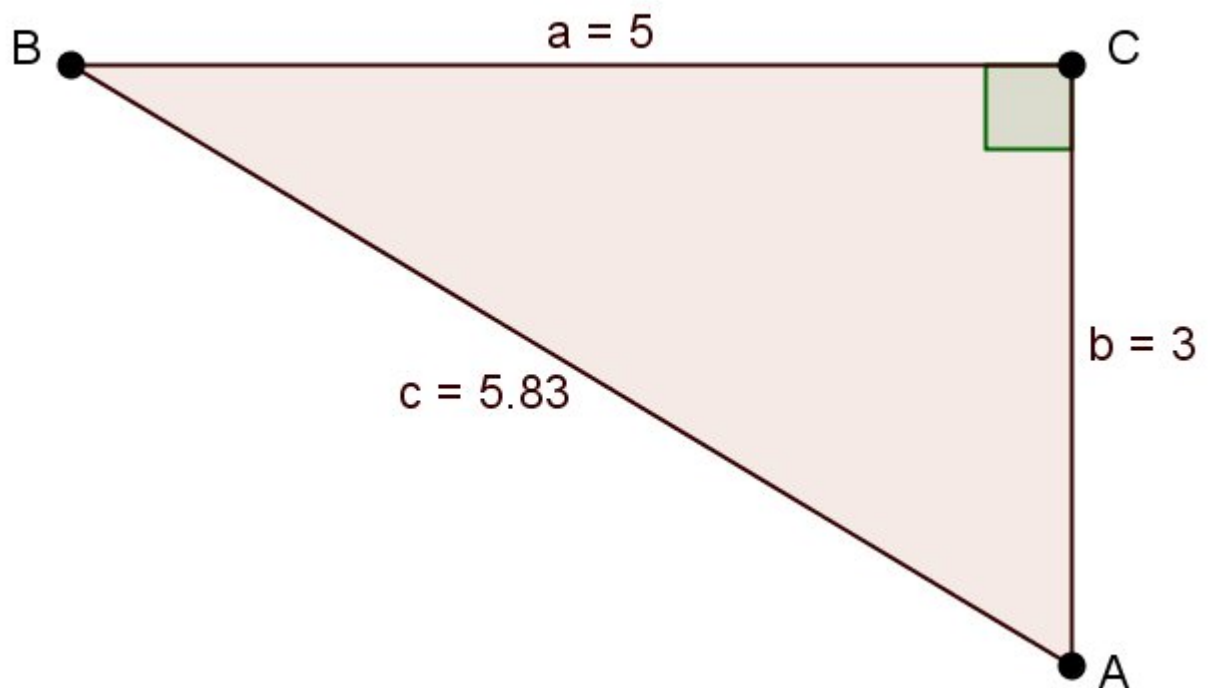
If choice a is selected set score to 1.

23. The sinus of an angle is:

- (a) opposite divided by the hypotenus.
- o (b) adjacent divided by the hypotenus.
- o (c) adjacent divided by the opposite.

If choice a is selected set score to 1.

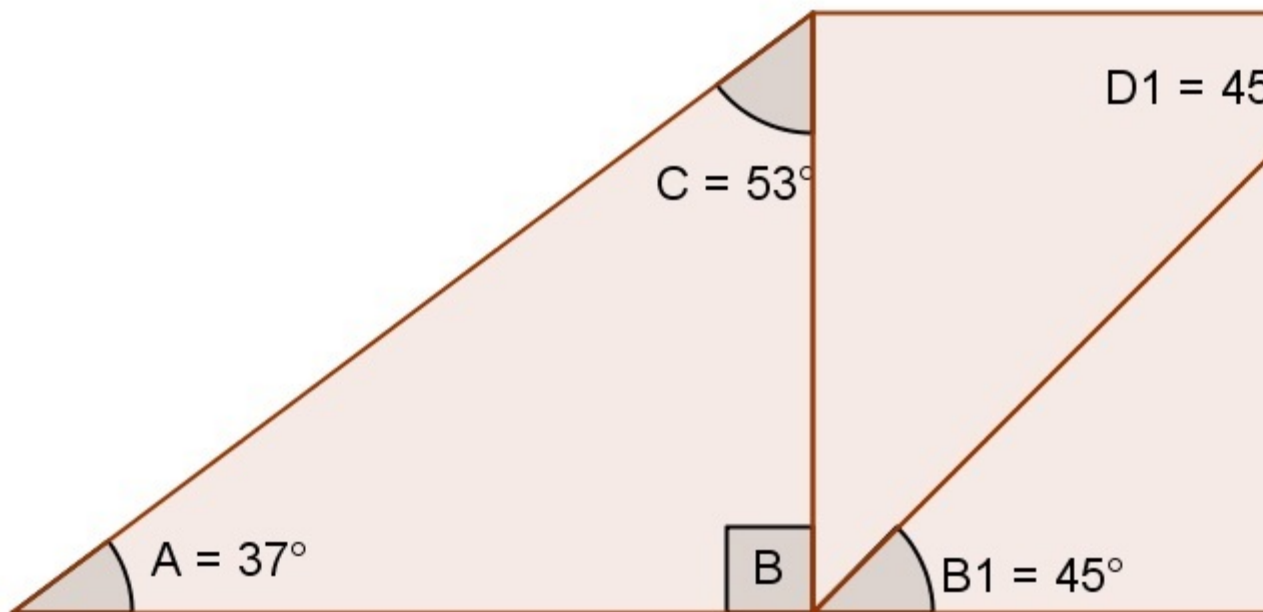
24. The sine of angle A is?



- o (a) $583 / 500$
- (b) $500 / 583$
- o (c) $300 / 583$

If choice b is selected set score to 1.

25. Determine the magnitude of angle D2 ?



- (a) 80°
- (b) 79°
- (c) 81°

If choice b is selected set score to 1.

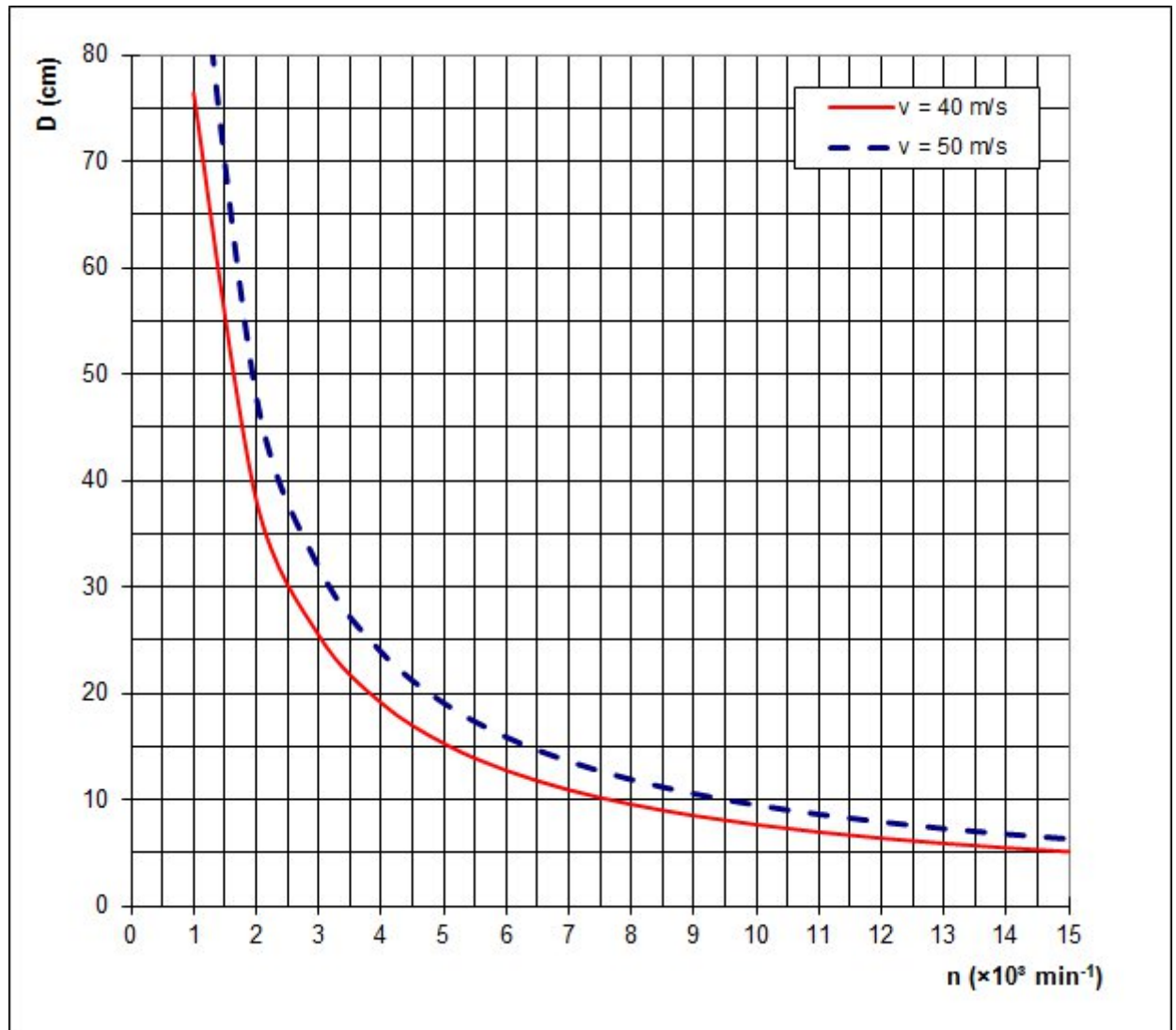
26. Equation : $y = -x^2 + 3x - 4$. If $x = 5$.

- (a) The equation represents a top parabola that opens downward.
- (b) The equation represents a dal parabola that opens upward.
- (c) The equation represents a straight line through the point (5,-14).

If choice a is selected set score to 1.

27. In the figure below you see 2 charts for the rotational speed of a cutter relative to the cutter diameter.

Determine the RPM if you need a cutter of 15 cm with a cutter speed of 40 m/s.



- (a) 5500 RPM
- o (b) 7500 RPM
- o (c) 9500 RPM

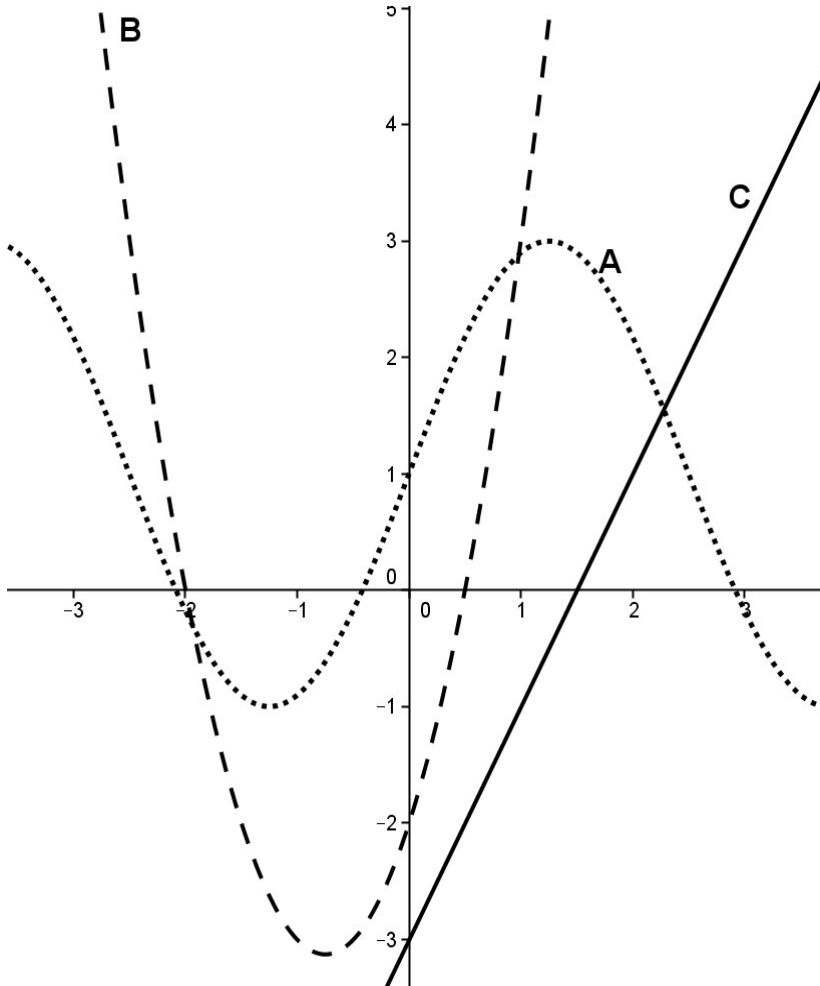
If choice a is selected set score to 1.

28. Determine the equation of the straight line that passes through the points (1,3) and tan with the x-axis = 2.

- o (a) $y = 0,5x + 8,5$
- o (b) $y = 0,5x + 2,5$
- (c) $y = 2x + 1$

If choice c is selected set score to 1.

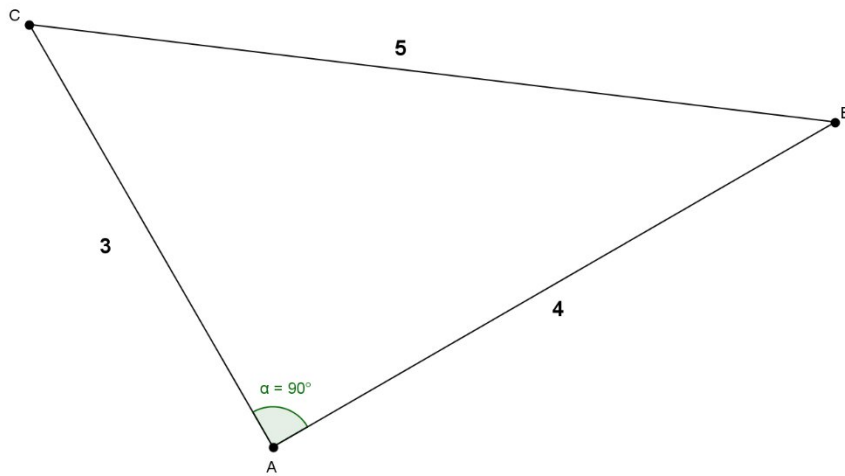
29. Three kinds of graphs are shown. Which graph belongs to the equation $y = 2x^2 + 3x - 2$?



- (a) Graph C
- (b) Graph A
- (c) Graph B

If choice c is selected set score to 1.

30. Calculate the shortest rectangular side if the hypotenuse has a length of 45 cm.

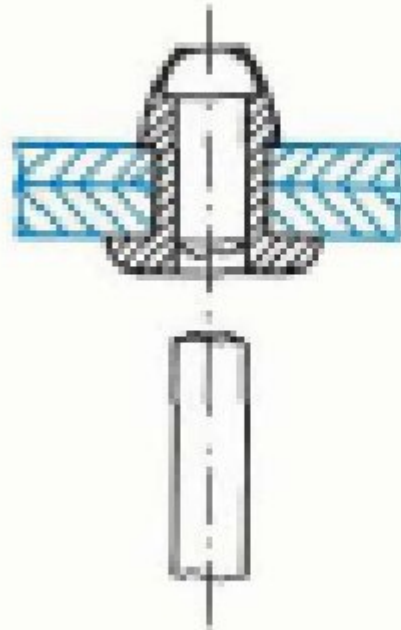


- (a) 75 cm
- (b) 27 cm
- (c) 36 cm

If choice b is selected set score to 1.

- 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



$d = 3$
 l

b

$d = 4$
 l

aluminum rivet

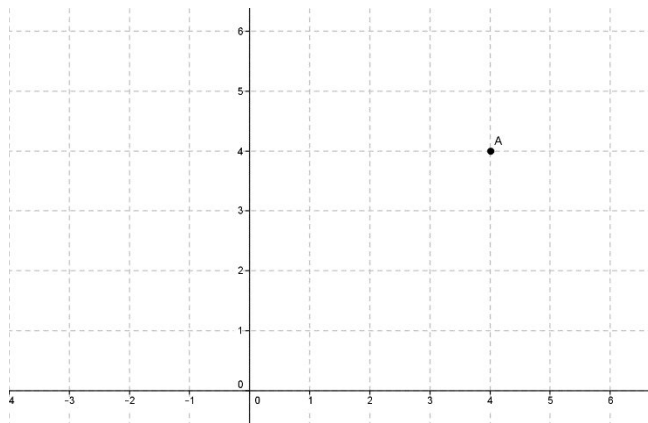
3,5	1 - 1,5	4
4,5	1,5- 2,5	5
5,5	2,5- 3,5	6
6,5	3,5- 4,5	7
8	4,5- 6,5	8
10	6,5- 8	10
12	8 -10	12

steel rivet

- (a) The length of the rivet is 12 mm.
- (b) The length of the rivet is 10 mm.
- (c) The length of the rivet is 14 mm.

If choice c is selected set score to 1.

32. Determine the polar coordinates of point A in the drawing.



- (a) $(4\sqrt{2} ; -45 \text{ degrees})$
- (b) $(2\sqrt{4} ; -45 \text{ degrees})$
- (c) $(4\sqrt{2} ; 45 \text{ degrees})$

If choice c is selected set score to 1.

***If assessment score is 75% to 100% Pass
If assessment score is 0% to 74% Fail***