




## Foundations of Mathematics and Pre-Calculus 10

### Sample Questions for Practising Electronic Tools

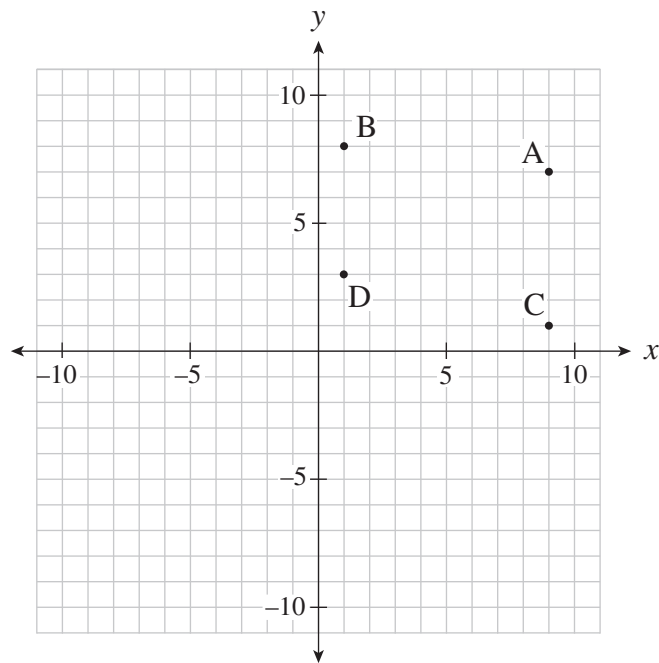
#### Instructions

1. You may require a protractor and a ruler (metric and imperial) for paper versions of the questions.
2. You may use math tiles.
3. When using your calculator (scientific or approved graphing calculator):
  - use the programmed value of  $\pi$  rather than the approximation of 3.14.
  - round only in the final step of the solution.
4. Diagrams are not necessarily drawn to scale.
5. For questions marked with , do not use your calculator.



### PART A: MULTIPLE-CHOICE QUESTIONS

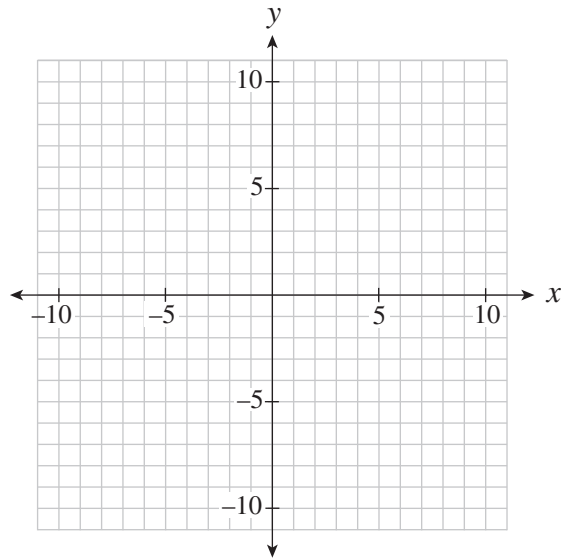
1. The function  $y - 3 = \frac{2}{5}(x + 1)$  will go through which point on the following graph?



- A. Point A
- B. Point B
- C. Point C
- D. Point D

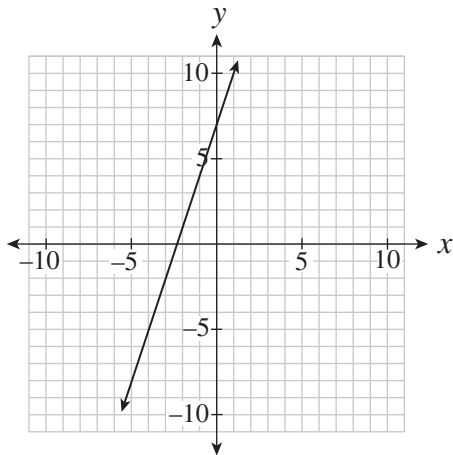
2. James correctly graphed  $y = \frac{1}{3}x + 7$ .

**Note:** This graph is provided for rough work.

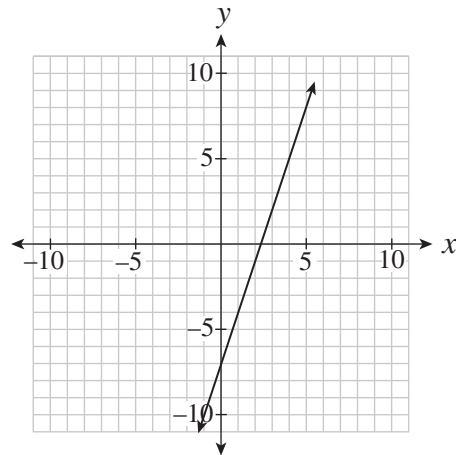


Which of the following student graphs should match James' graph?

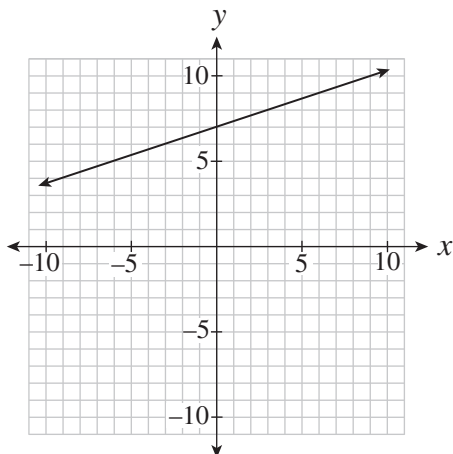
A. **Student A's graph**



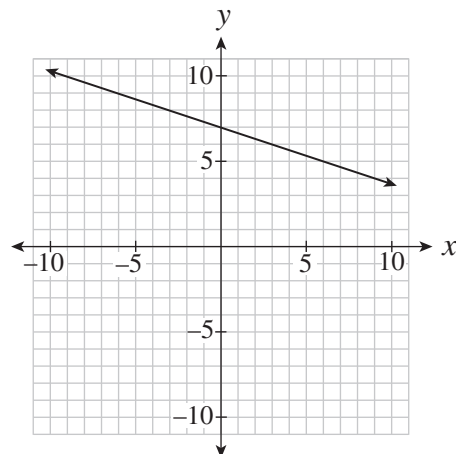
B. **Student B's graph**



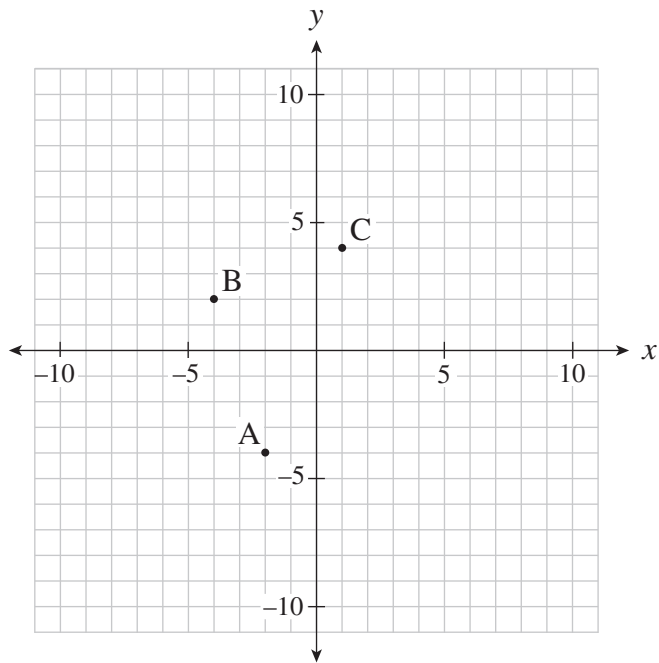
C. **Student C's graph**



D. **Student D's graph**

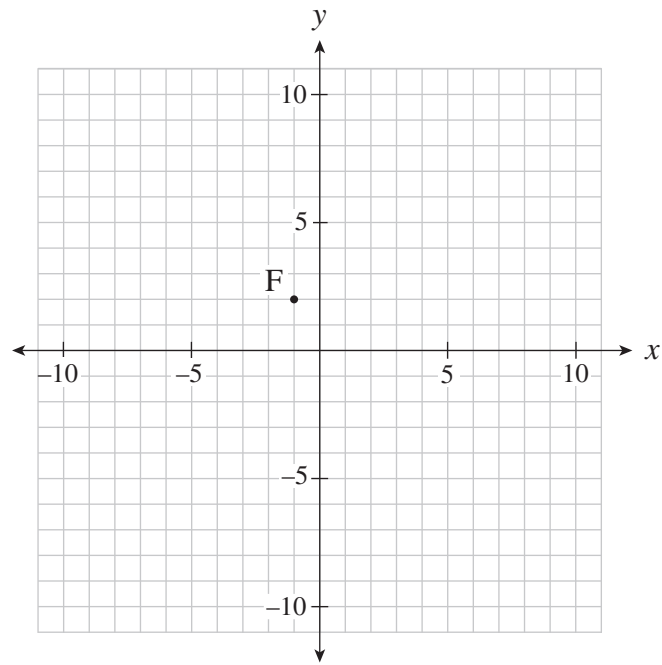


3. Which of the following coordinate pairs would be a possible point Q so that line CQ is perpendicular to line AB?



- A.  $Q(-3, 3)$
- B.  $Q(-3, 0)$
- C.  $Q(2, 1)$
- D.  $Q(4, 5)$

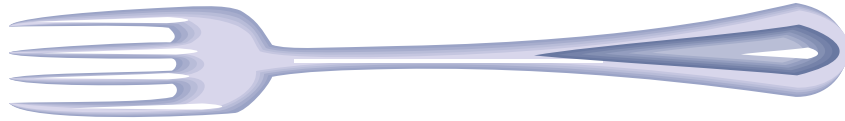
4. A line segment has a slope of  $\frac{1}{5}$  and passes through point F.



What are the coordinates of the  $x$ -intercept of the line segment?

- A.  $(-11, 0)$
- B.  $(0, -11)$
- C.  $(0, 9)$
- D.  $(9, 0)$

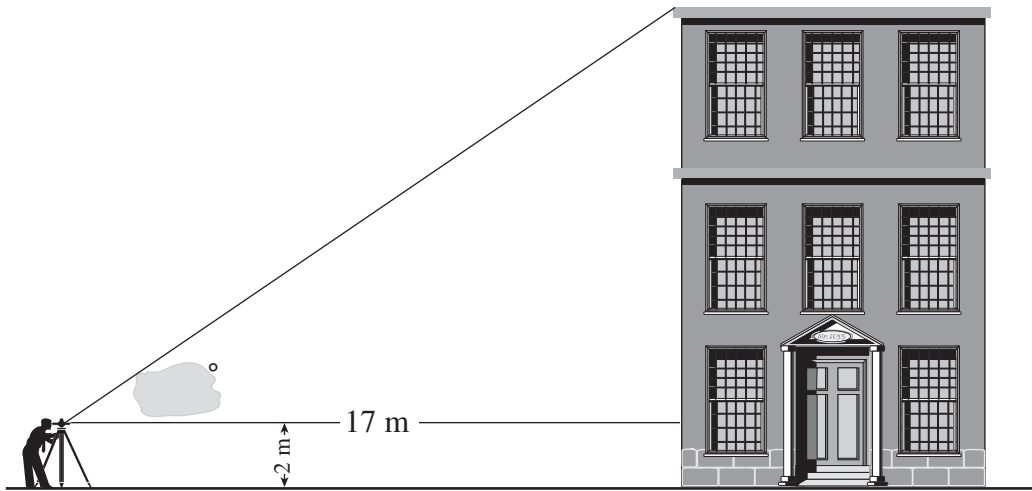
5. How long is the fork below?



**Note: This diagram is drawn to scale.**

- A.  $4\frac{3}{8}$  inches
- B.  $4\frac{6}{8}$  inches
- C. 4.6 inches
- D. 11.1 inches

6. A surveyor drew a scale diagram of a building. Unfortunately, his plans got water on them.

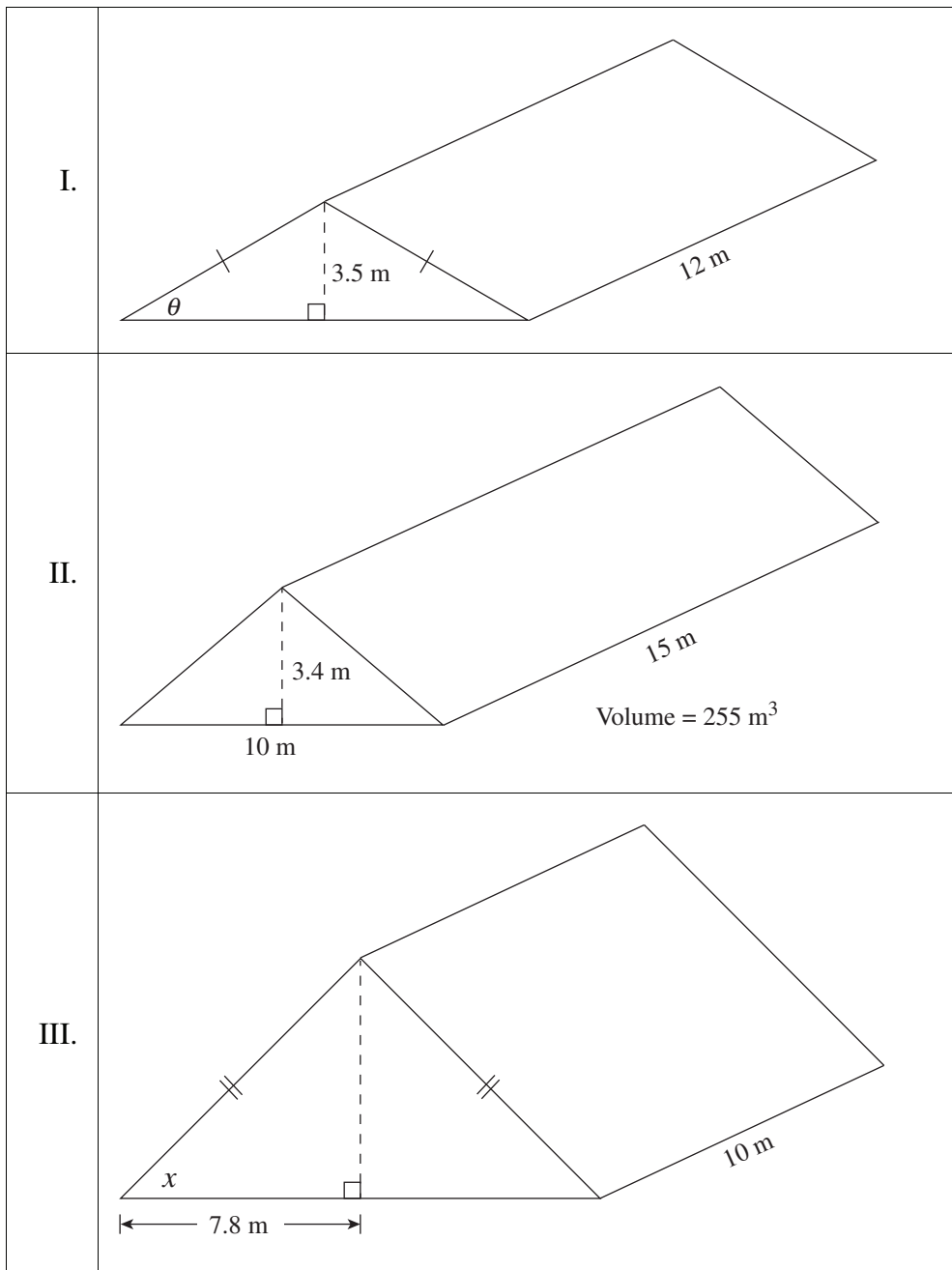


**Note: This diagram is drawn to scale.**

Help the surveyor by figuring out the missing angle of elevation.

- A.  $18^\circ$
- B.  $35^\circ$
- C.  $40^\circ$
- D.  $55^\circ$

7. Which of the following triangular prisms have the same volume, to the nearest cubic metre?  
Diagrams are to scale.



**These diagrams are drawn to scale.**

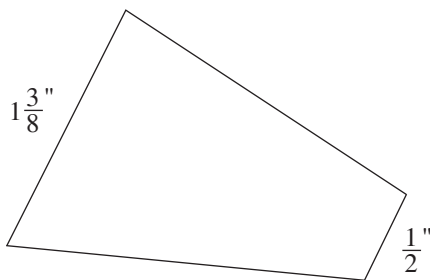
- A. I and II only  
 B. I and III only  
 C. II and III only  
 D. I, II and III



8. A company has created an inflatable building that resembles a cube. On their website, they advertise a 3375 cubic foot building. George wants to know what the dimensions of the building are. What is its length to the nearest foot?

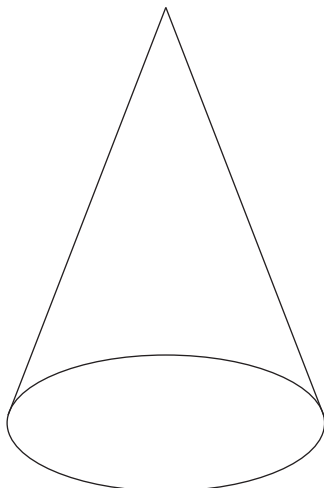
- A. 10 ft
- B. 15 ft
- C. 34 ft
- D. 58 ft

9. Determine the perimeter of the shape below in inches.



- A. 4.8 inches
- B.  $5\frac{1}{2}$  inches
- C.  $5\frac{3}{8}$  inches
- D.  $5\frac{7}{8}$  inches

10. Determine the lateral surface area of a right cone with a height of 5.5 cm.



**Note: Diagram is drawn to scale.**

- A.  $36 \text{ cm}^2$
- B.  $39 \text{ cm}^2$
- C.  $73 \text{ cm}^2$
- D.  $77 \text{ cm}^2$