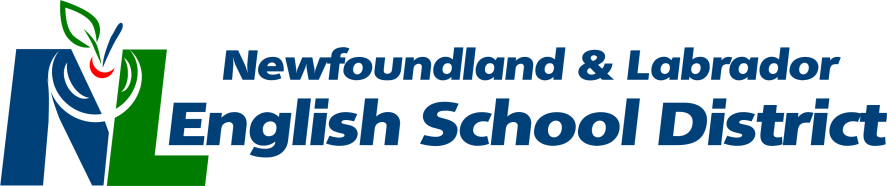
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| **DO NOT OPEN THIS EXAMINATION PAPER UNTIL YOU ARE TOLD BY**  **THE SUPERVISOR TO BEGIN** |



**Mathematics 1201**

Final Examination

Monday, June 16th, 2014

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Teacher Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Total Value: 70 marks Time: 2 Hours

***GENERAL INSTRUCTIONS***

1. Candidates are required to do all items.

2. The examination has a total of 16 pages (including this cover) consisting of the following parts:

Part I: 35 Selected Response Items Value: 35 marks

Part II: 10 Constructed Response Questions Value: 35 marks

3. **Page 15 is a formulae sheet** to be used for the exam. This page may be removed.

4. **Part I** should be completed on the **answer sheet** provided on **page 16** of the exam. This page may be removed.

5. Answers to the constructed response questions for Part II are to be placed on this paper in the spaces provided.

6. For Part II items, candidates are reminded to show ALL necessary steps and calculations. Partial credit may be awarded for logical work even though you might not arrive at the correct solution. Correct answers without appropriate calculations will not merit full marks.

7. A self powered calculator may be used for calculations and to obtain special values. Graphing calculators are to be reset before the examination begins.

***REGULATIONS FOR CANDIDATES***

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during examinations. Candidates must comply with all requirements governing the following matters.

|  |  |
| --- | --- |
| * Materials required * Leaving the room * Materials not permitted * Models of calculators permitted | * Use of pen or pencil * Use of unauthorized means and penalties * Completion of required information * Communication during the exam |

**Part I**

**Total Value: 35 marks**

1. What SI unit is best for measuring the width of this exam page?

A) centimetre

B) feet

C) inch

D) metre

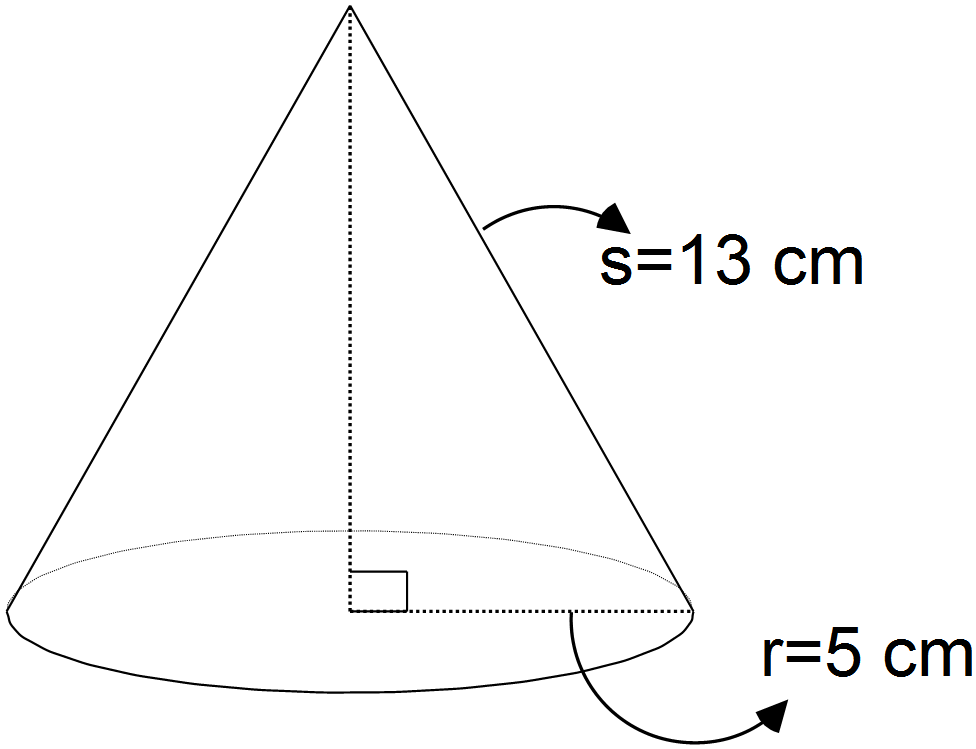
2. Which calculation would convert 6 km into yards?

A) 

B) 

C) 

D) 

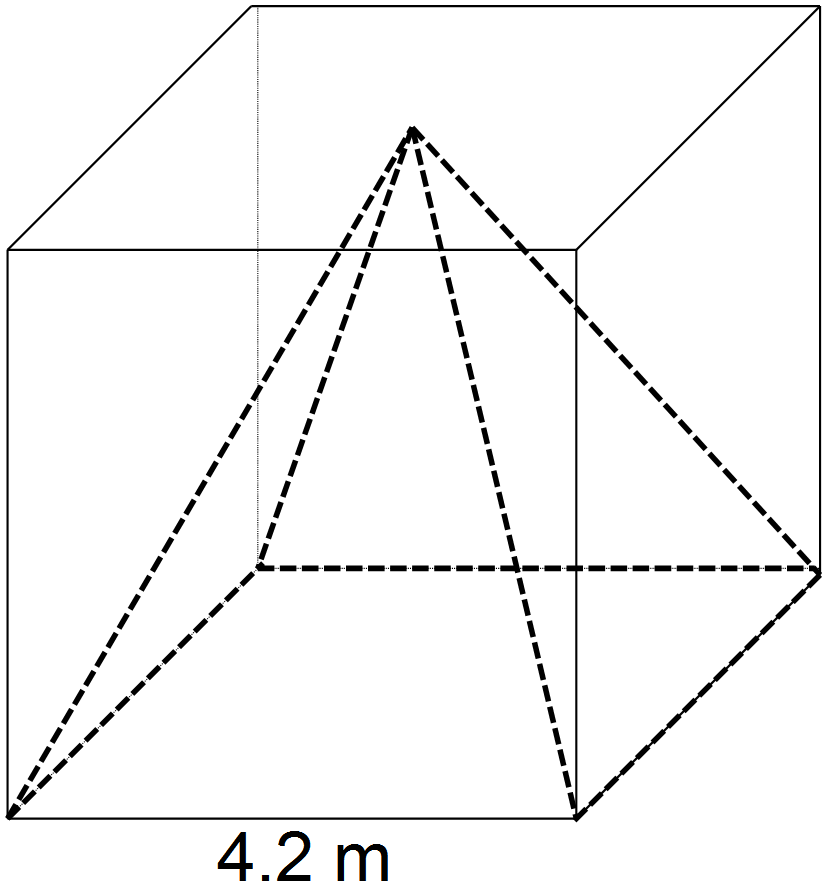
3. A cone has a radius of 5 cm and a slant height of 13 cm. What is its surface area to the nearest square centimetre? (Note: use )

A) 220

B) 283

C) 314

D) 340

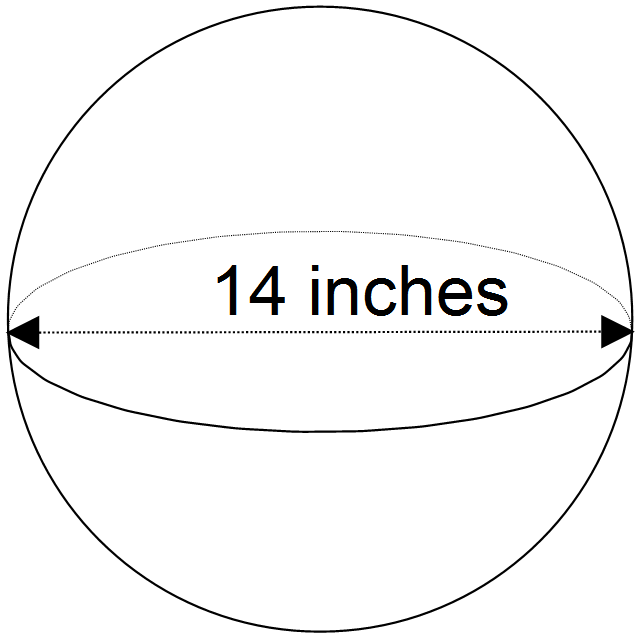
4. What is the volume, to the nearest tenth of a cubic metre, of the square pyramid that just fits inside a cube with the same height?

A) 5.9

B) 24.7

C) 74.1

D) 222.3

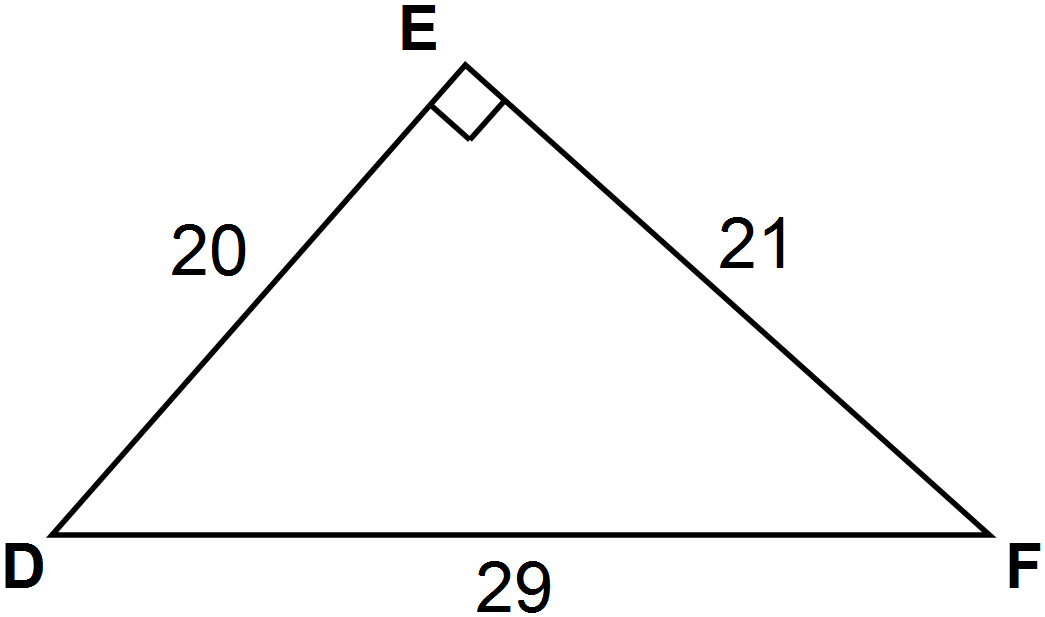
5. What is the surface area of this sphere to the nearest tenth of a square inch? (Note: use )

A) 615.4

B) 1436.0

C) 2461.8

D) 4308.8

6. Which ratio represents ?

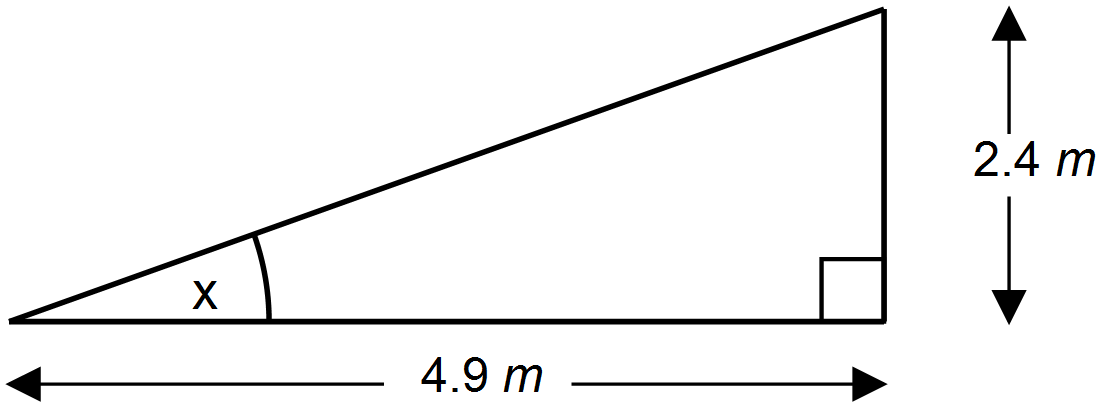
A) 

B) 

C) 

D) 

7. Which equation can be used to determine the measure of angle x ?



A) 

B) 

C) 

D) 

8. A mine tunnel is dug at an angle of 19°. How long must the tunnel be to the nearest tenth of a metre to reach a depth of 26 m?

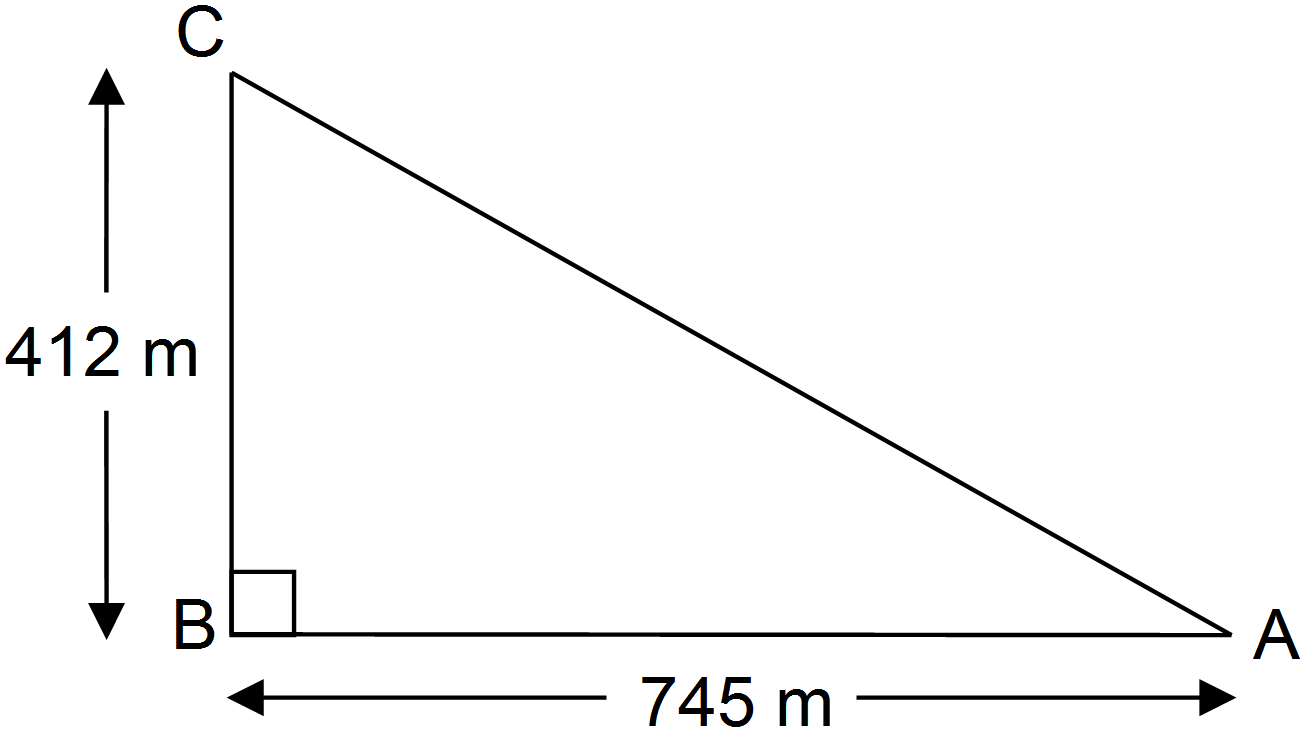


A) 8.5

B) 27.5

C) 75.5

D) 79.9

9. What is the measure of A to the nearest degree?

A) 29°

B) 34°

C) 56°

D) 61°

10. What is the least common multiple of 312 and 416 ?

A) 13

B) 104

C) 1248

D) 129 792

11. Which is irrational?

A) 

B) 

C) 

D) 

12. What is  expressed as a radical?

A) 

B) 

C) 

D) 

13. Evaluate: 

A) 

B) 

C) 

D) 

14. Simplify: 

A) 

B) 

C) 

D) 

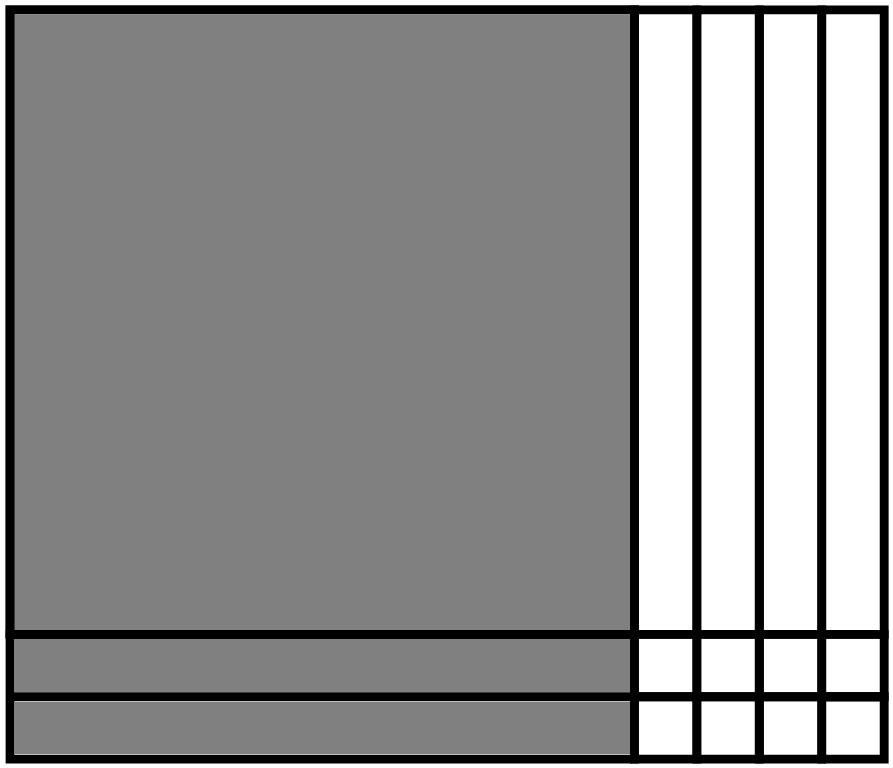
15. What is  as a mixed radical in simplest form?

A) 

B) 

C) 

D) 

16. A polynomial is represented by the tiles shown. What are the factors of the polynomial? (Note: Shaded tiles represent ‘positive’.)

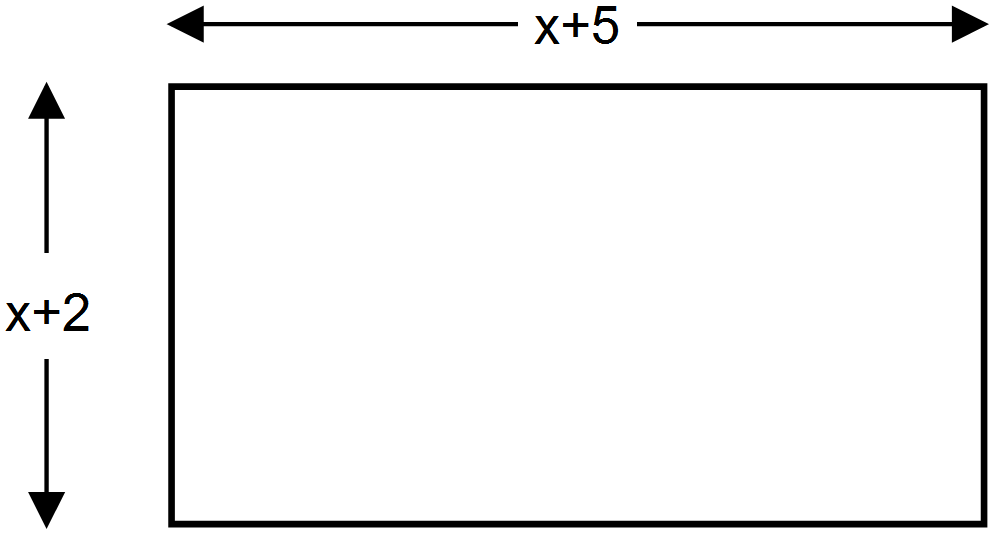
A) 

B) 

C) 

D) 

17. What is the area of this rectangle?



A) 

B) 

C) 

D) 

18. Factor completely: 

A) 

B) 

C) 

D) 

19. Expand and simplify: 

A) 

B) 

C) 

D) 

20. Factor completely: 

A) 

B) 

C) 

D) 



21. Which trinomial **CANNOT** be factored?

A) 

B) 

C) 

D) 

22. Factor completely: 

A) 

B) 

C) 

D) 

23. Which represents a linear equation?

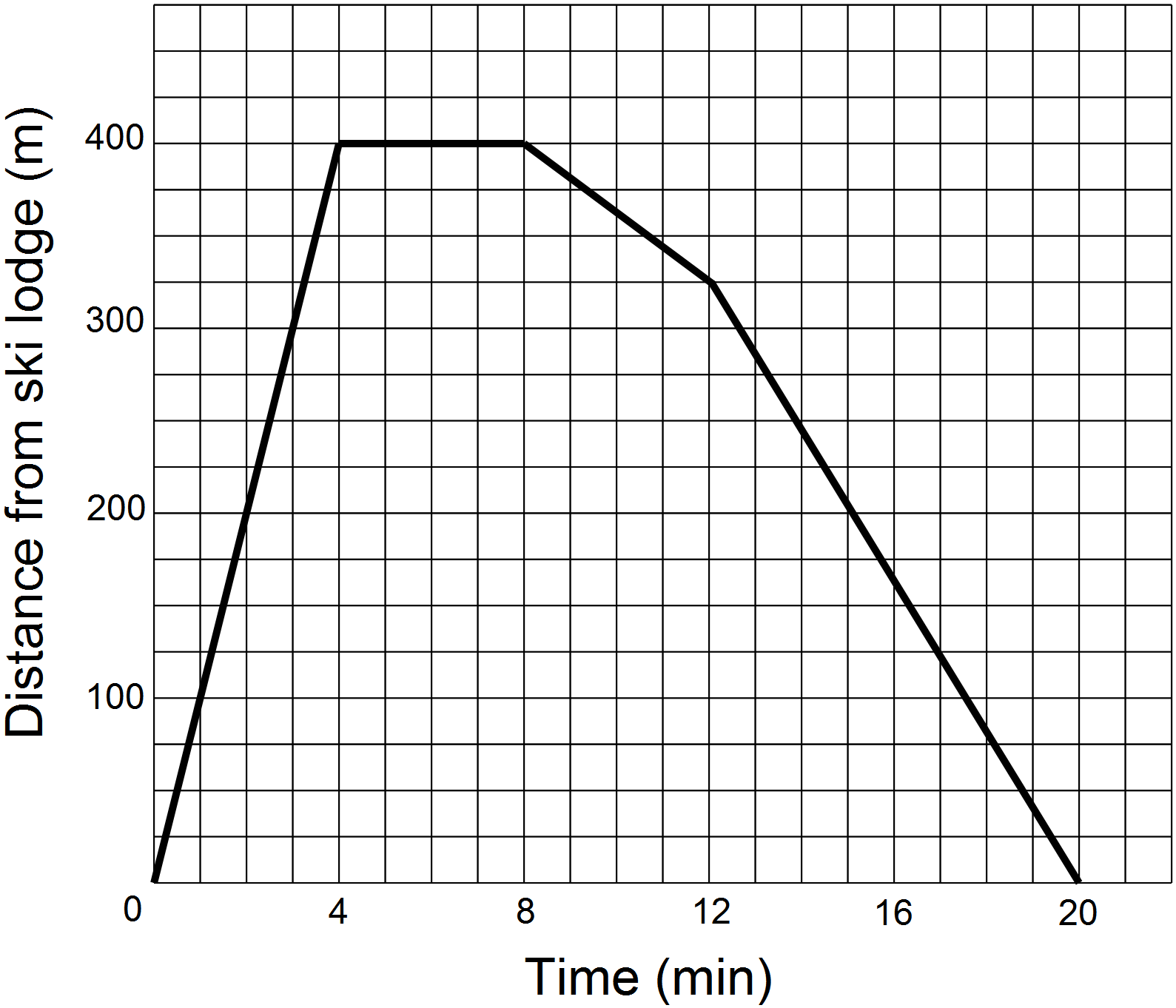
A) 

B) 

C) 

D) 

24. The graph below represents Sherry’s distance from a ski lodge with respect to time. In which interval is she travelling the fastest?



A) 0 – 4 minutes

B) 4 – 8 minutes

C) 8 – 12 minutes

D) 12 – 20 minutes

25. Which set of ordered pairs represents a function?

 A) 

B) 

C) 

D) 

26. The rental charge at a movie store is given by the equation , where  is the total cost in dollars and  is the number of days past the return date. Jeremy returns a movie and the charge is $44. How many days was his movie overdue?

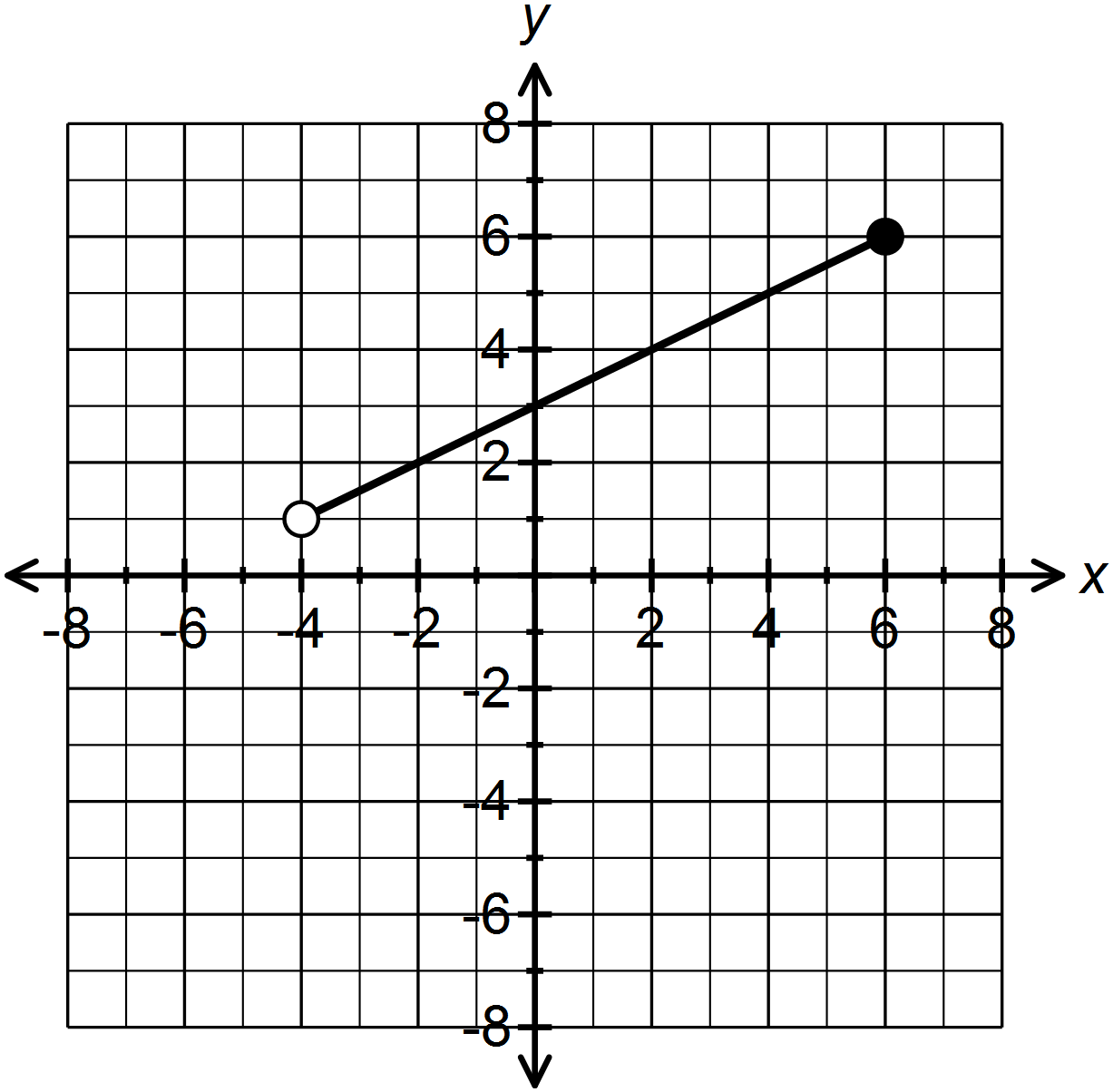
A) 13

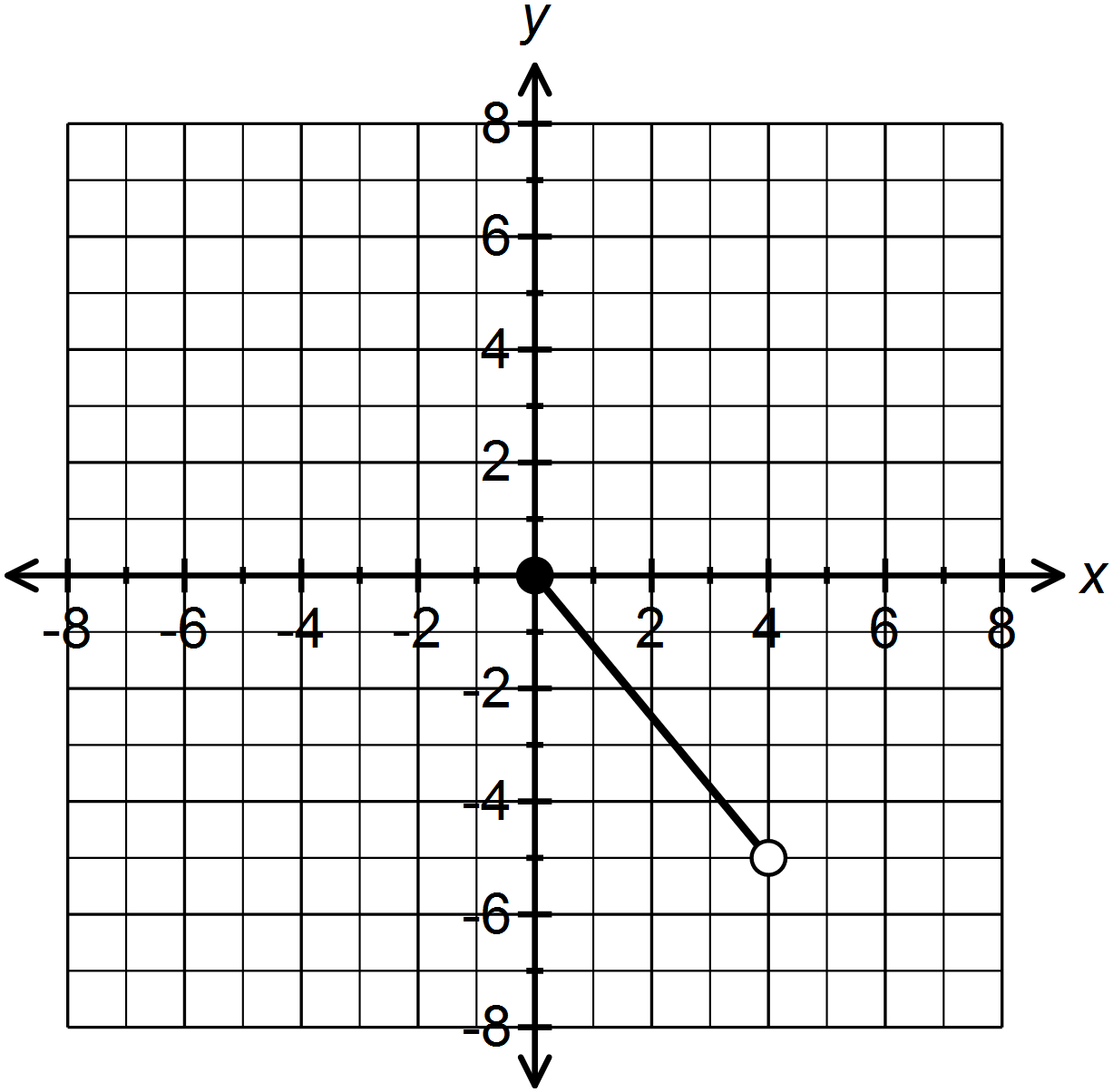
B) 16

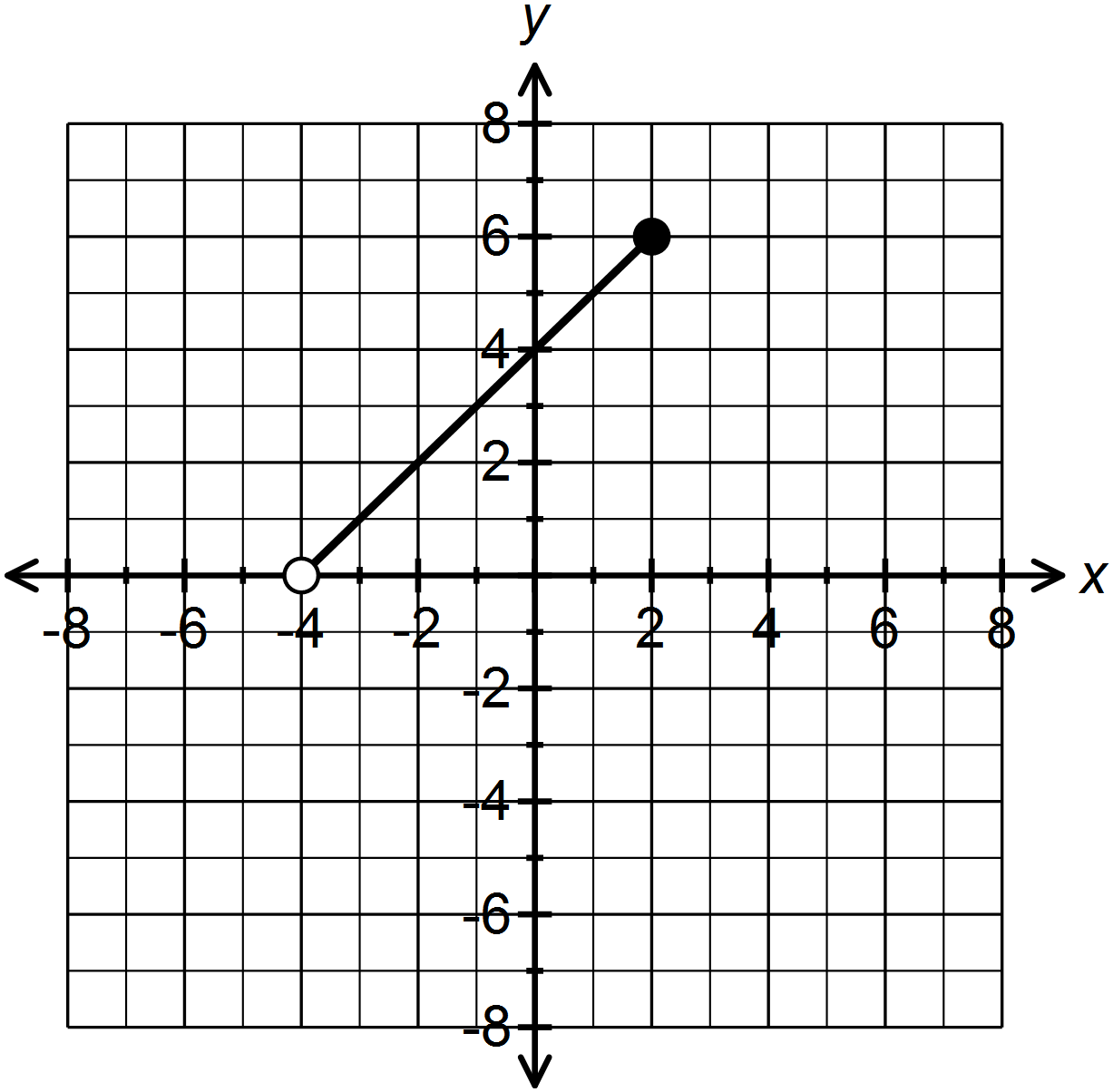
C) 39

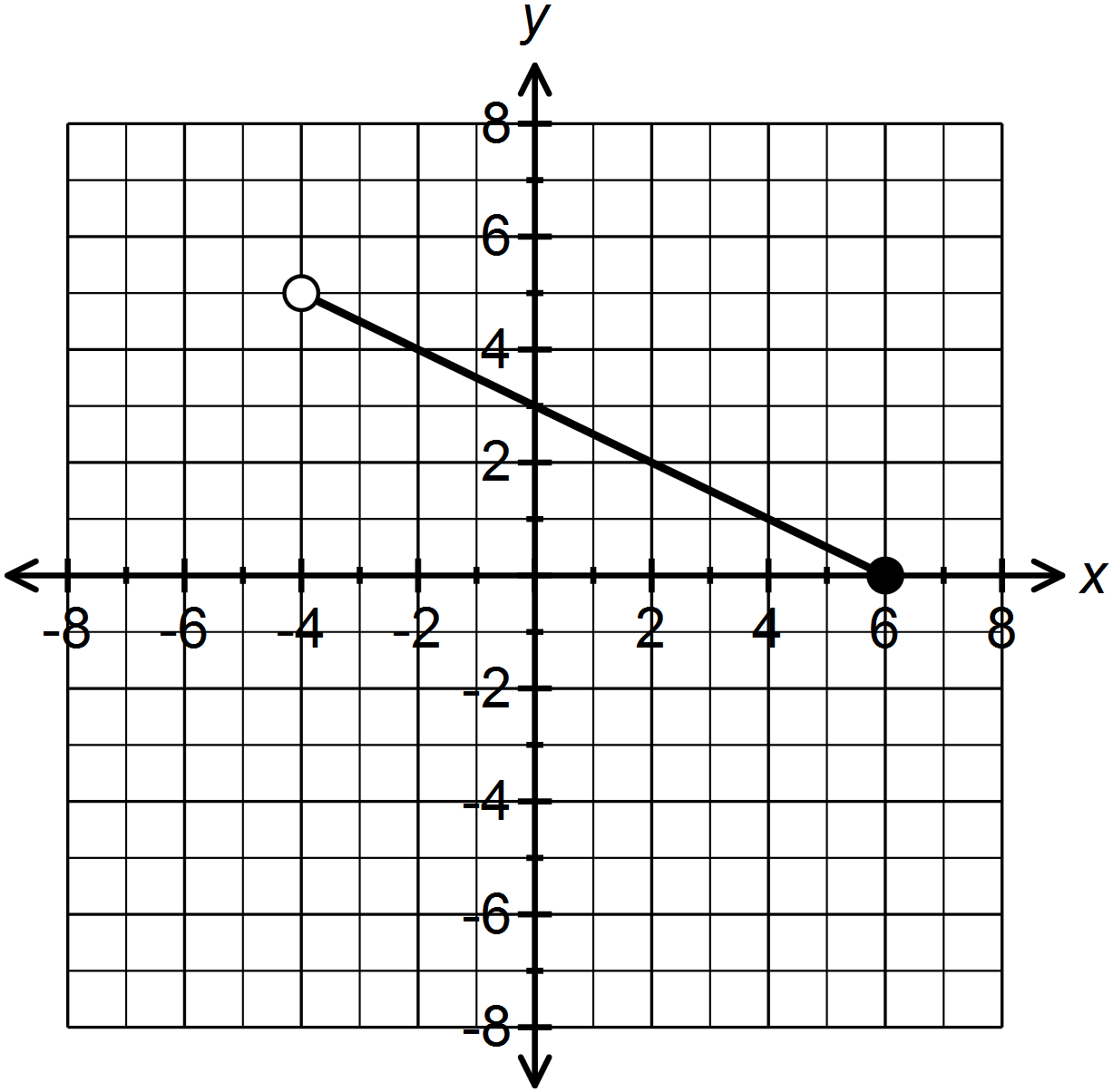
D) 137

27. Which graph has domain  and range  ?

 A)

 B)

 C)

 D)

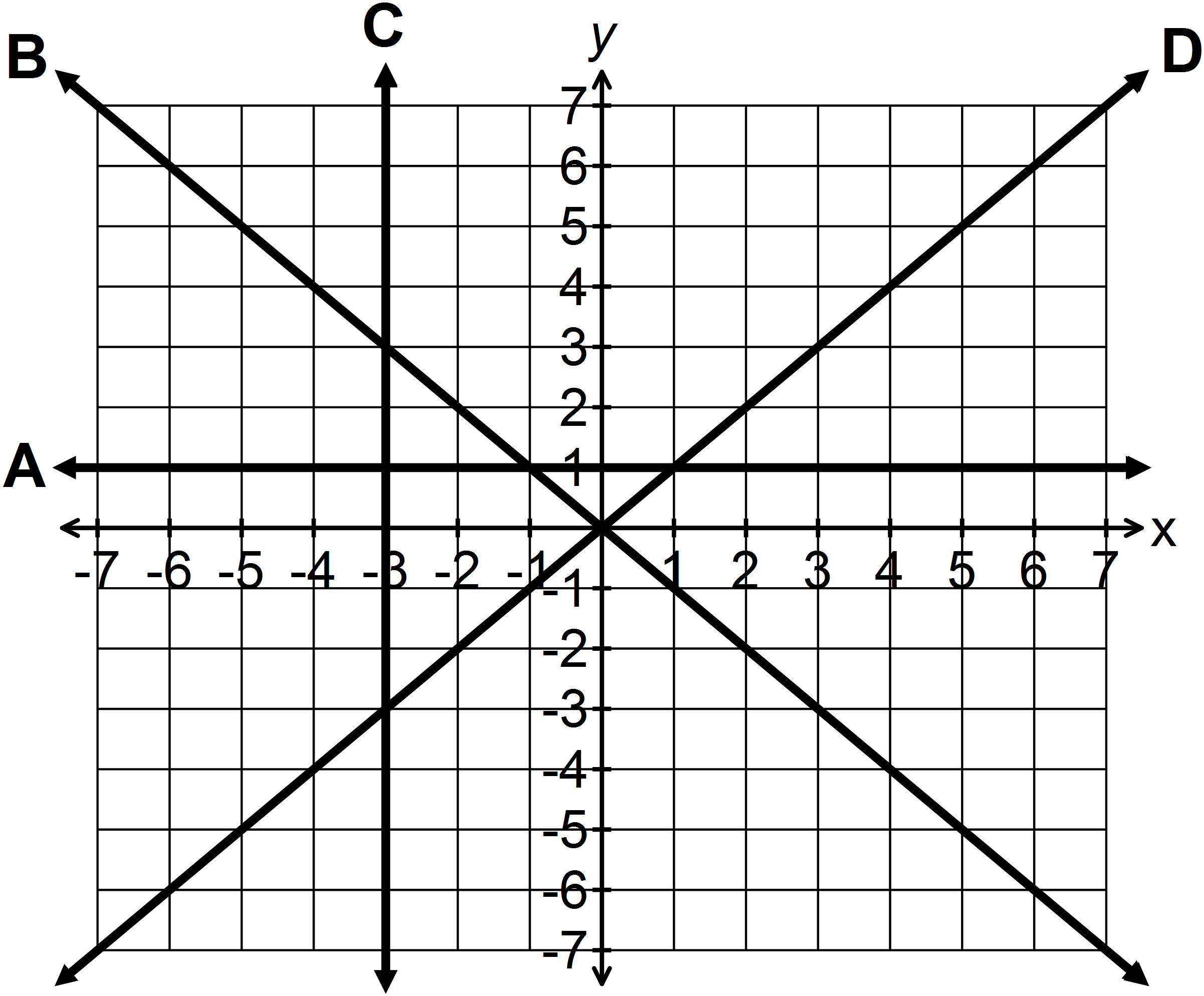
28. What is the slope of a line that is parallel to  ?

A) 

B) 

C) 

D) 

29. Which line has a slope that is undefined?

A) A

B) B

C) C

D) D

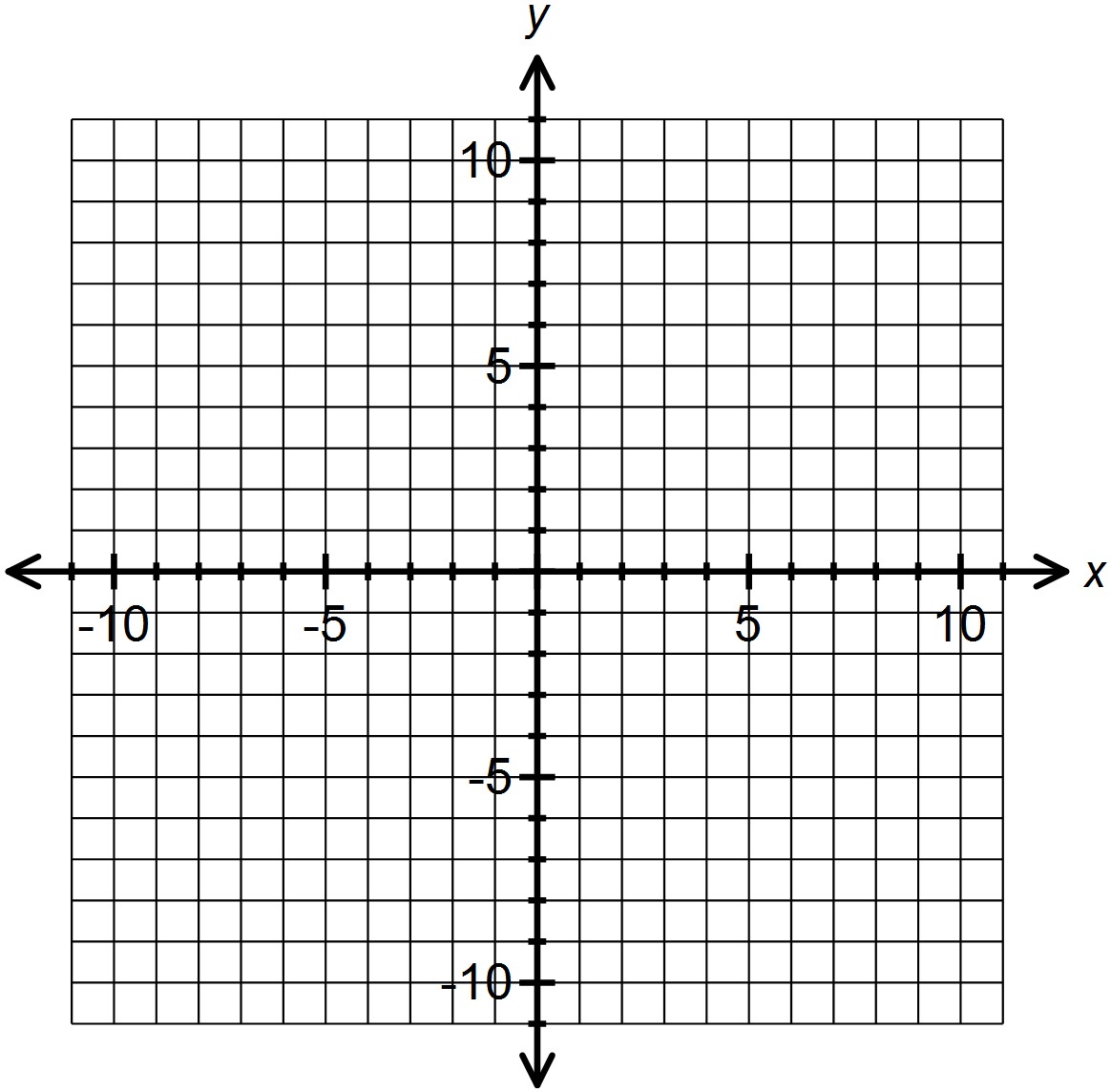
30. What is the equation of the line that passes through the point  and has a slope of  ?

A) 

B) 

C) 

D) 



31. A line passes through the point  and has a slope

of . Which point does the line also pass through?

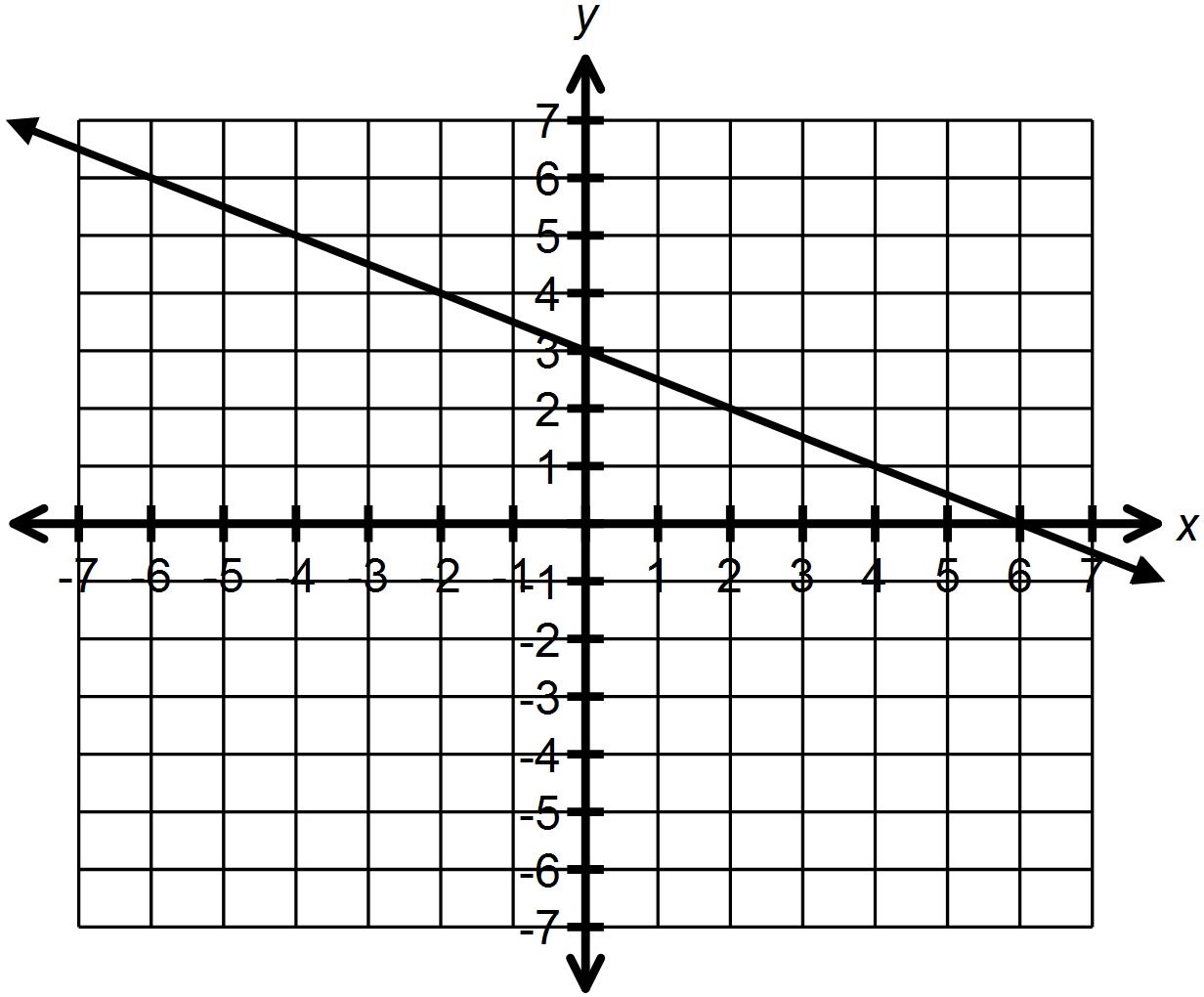
A) 

B) 

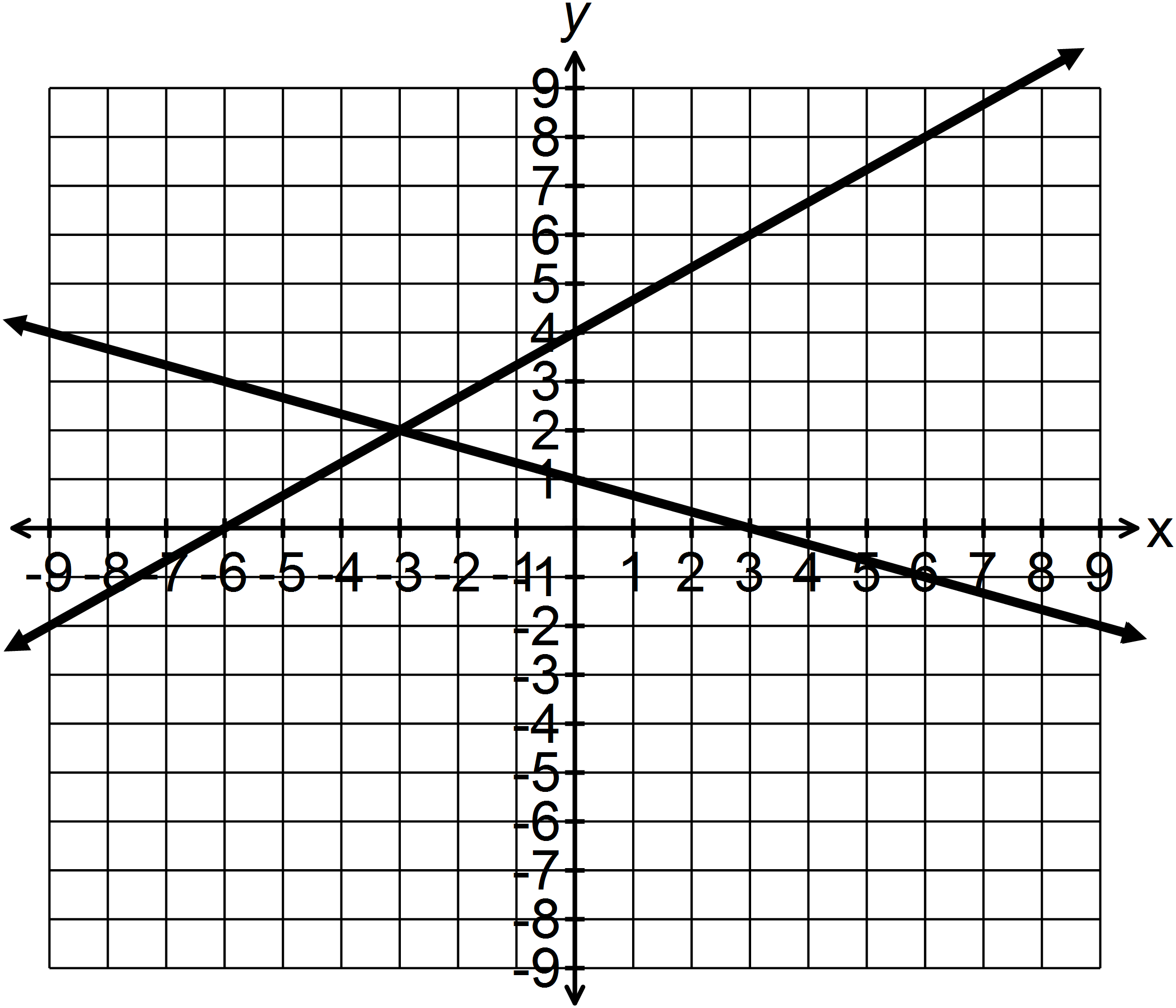
C) 

D) 

32. What is the equation of the line graphed below?



|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

33. What is the solution to the system of equations graphed below?

A) 

B) 

C) 

D) 

34. Which linear system has an infinite number of solutions?

A) 

B) 

C) 

D) 

35. Solve: 

A) 

B) 

C) 

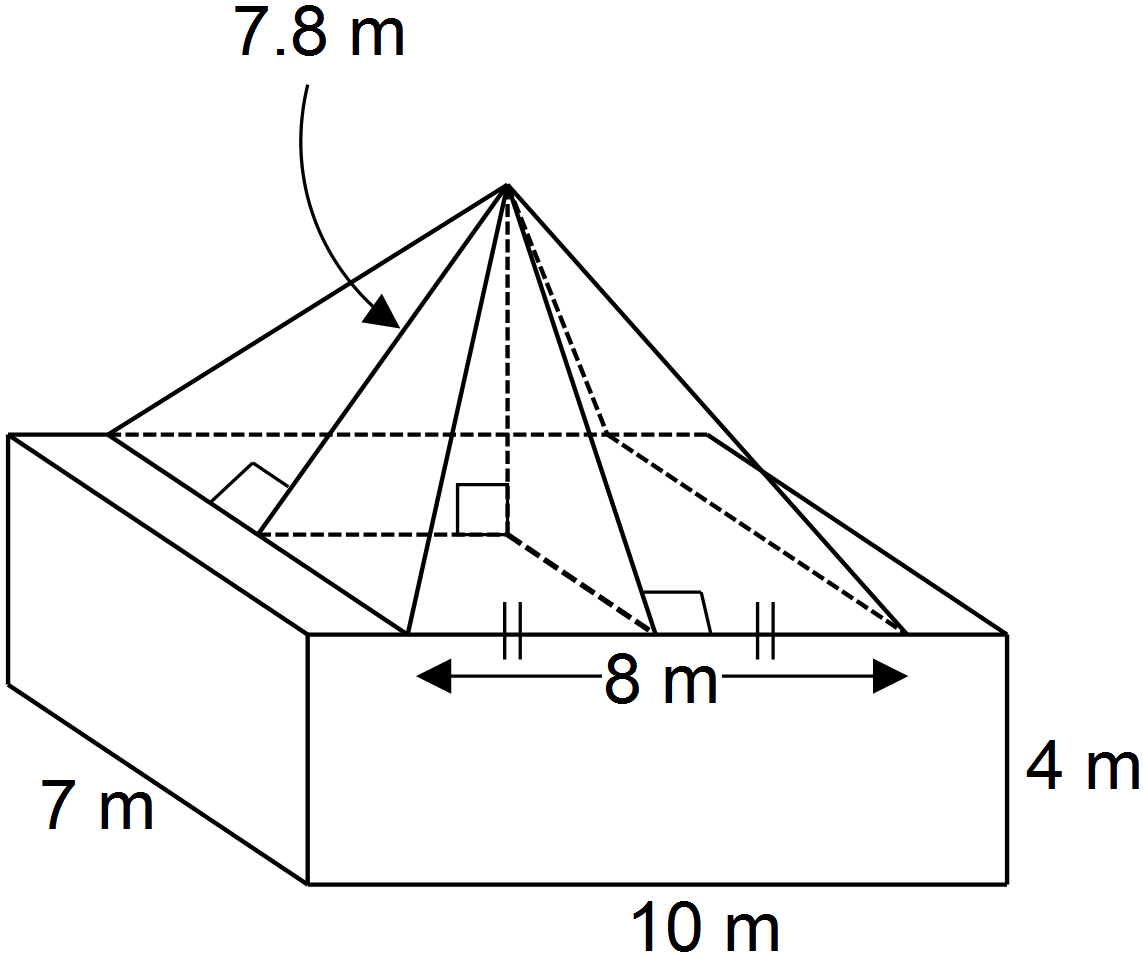
D) 

**Part II**

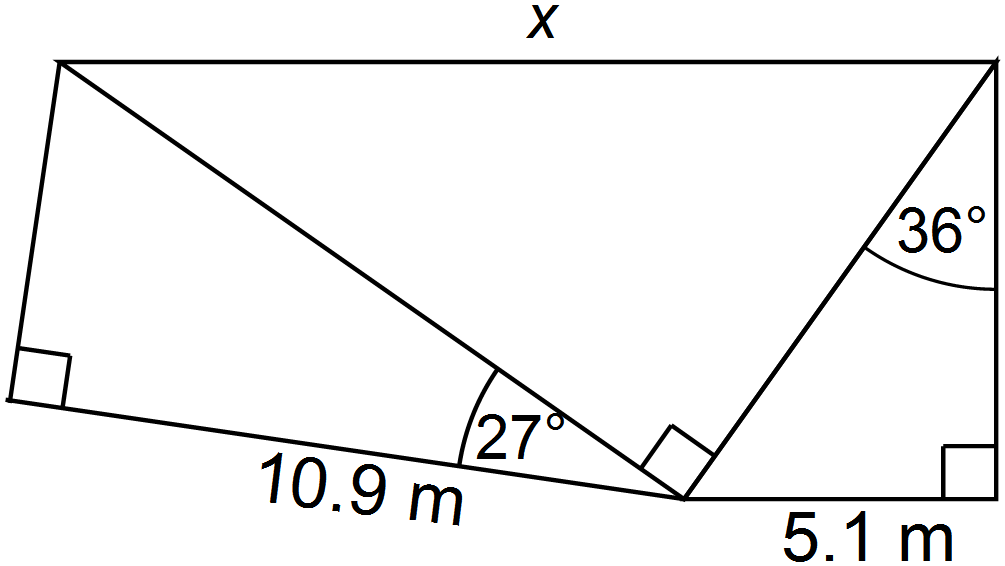
**Total Value: 35 marks**

Value

4 36. This composite object is a rectangular pyramid on top of a rectangular prism. Find the height of the rectangular pyramid and use this to help determine the volume of the composite object. (answers to the nearest tenth)



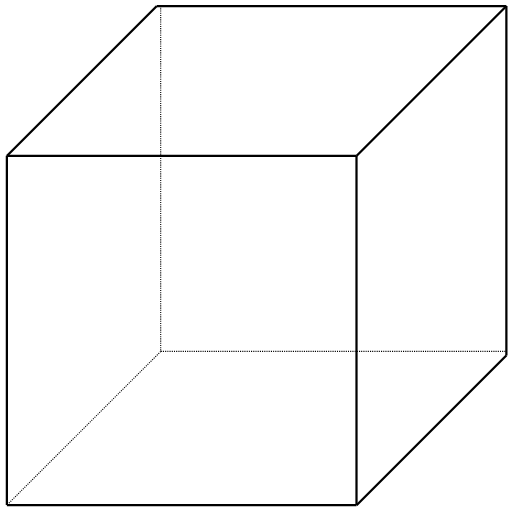
4 37. Determine the value of *x* to the nearest tenth of a metre.



4 38. Simplify completely: (Note: Answers should have only positive exponents.)



3 39. The volume of a cube is . Determine the surface area of the cube.



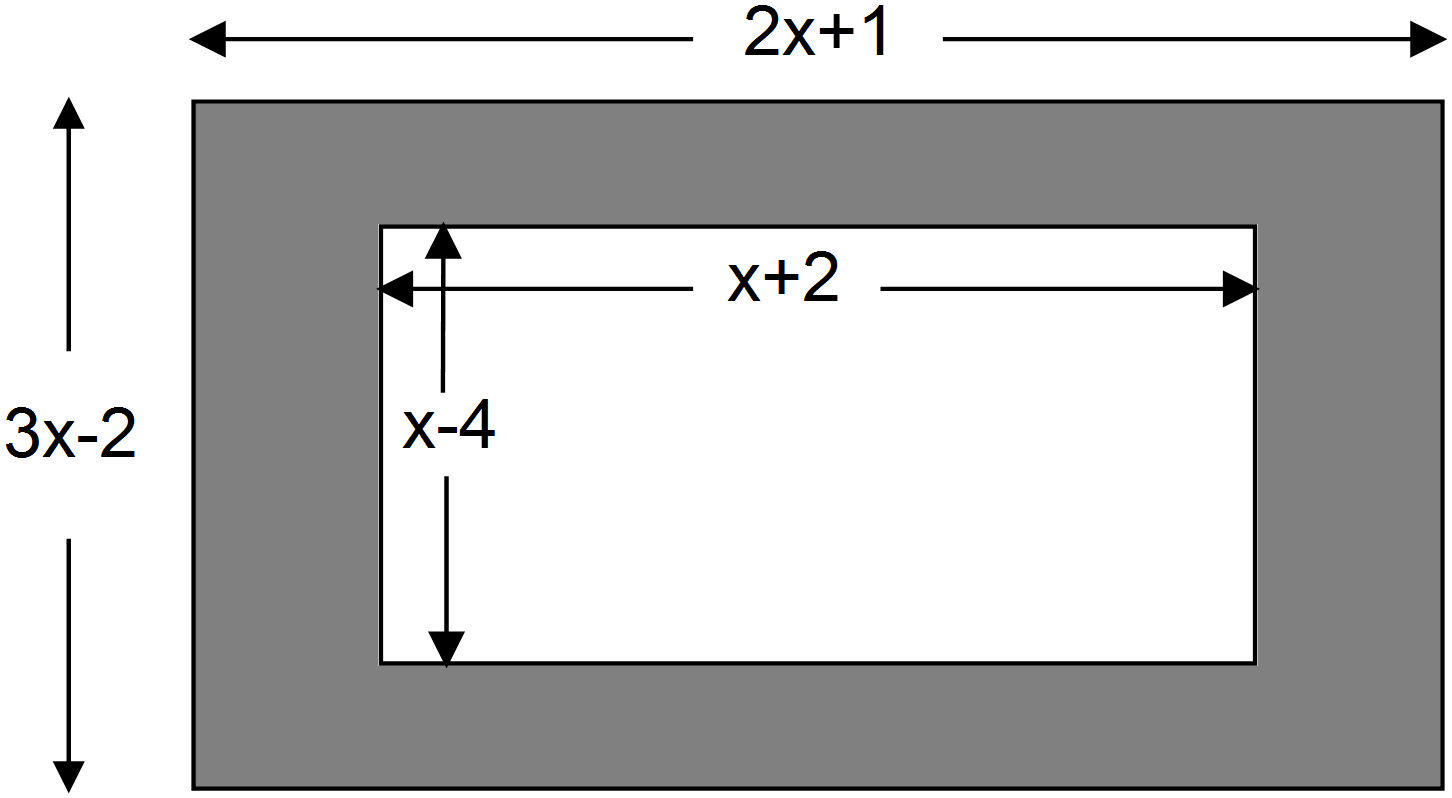
3 40. Factor completely: 



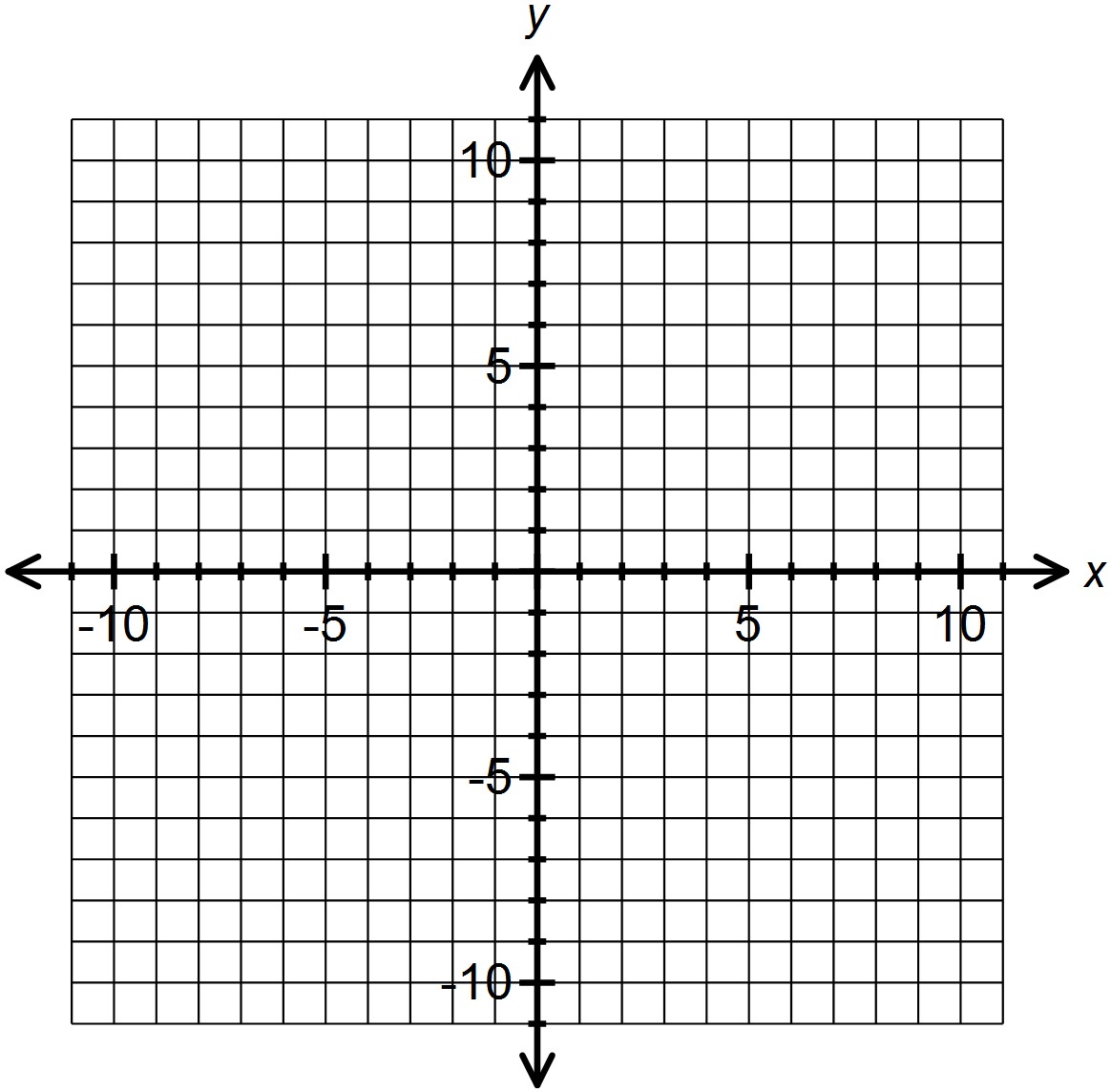
2 41. Expand and simplify: 

|  |  |
| --- | --- |
|  |  |

3 42. Determine the simplified expression that would represent the area of the shaded region.



4 43. Determine the x and y intercepts of the function defined by  where  and sketch the graph of the function.



44. A line passes through the points  and .

2 A) Determine the equation of the line in slope-intercept form.(i.e. )

2 B) Determine the equation of the line in slope-intercept form that passes through  and is perpendicular to .



4 45. Solve this system:

**Math 1201 Formulae Sheet**

**(This sheet may be removed from the exam paper.)**

**Measurement**

|  |  |  |
| --- | --- | --- |
| **Imperial** |  | **Imperial to SI Units** |
| 1 ft. = 12 in. |  | 1 in. = 2.54 cm 2.5 cm |
| 1 yd. = 3 ft. |  | 1 mi. 1.6 km |
| 1 mi. = 1760 yd. |  |  |

**Surface Area and Volume**

|  |  |
| --- | --- |
| Surface Area | Volume |
| Cylinder | Pyramid |
| Cone | Cone |
| Sphere | Sphere |

**Math 1201 Selected Response Answer Sheet**

**(This sheet may be removed from the exam paper.)**

**Student Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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