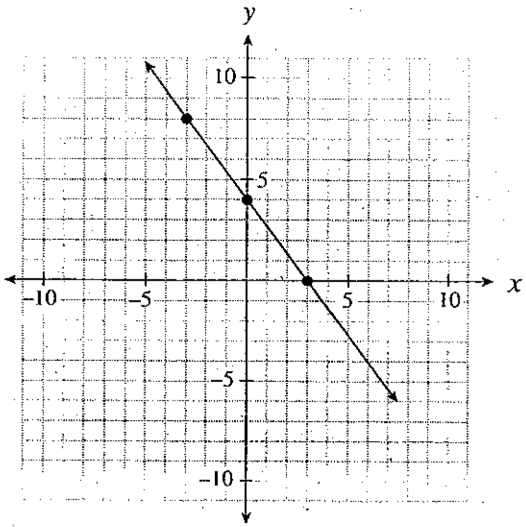
Chapter 6

NO CALCULATOR



(1) Which of the following equations describes the linear relation graphed above?

I.	$y=\frac{4}{3}x+4$
II.	$y-8=-\frac{4}{3}(x+3)$
III.	$4x+3y-12=0$

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

(2) Determine the equation of a line, in slope-intercept form, that passes through the points $(6,\ 1)$ and $(-10,\ 9)$.

A. $y=-\frac{1}{2}x+4$

B. $y=-\frac{1}{2}x-2$

C. $y=-2x+8$

D. $y=-2x+13$

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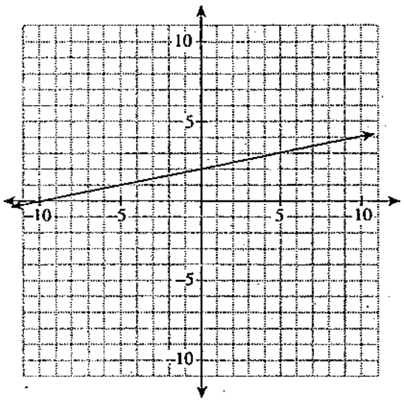
(3) Which graph represents the relation $x - 5y + 10 = 0$?

A.



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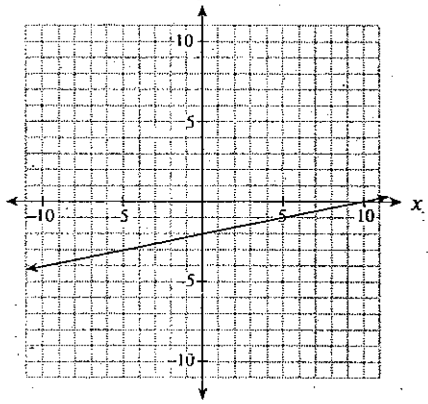

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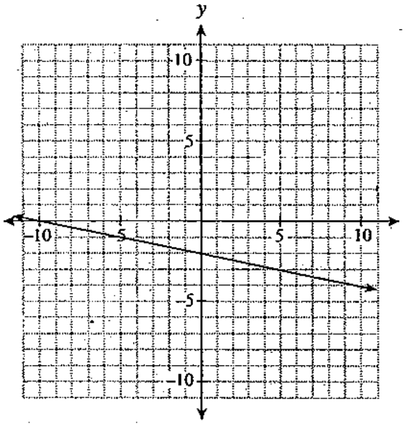
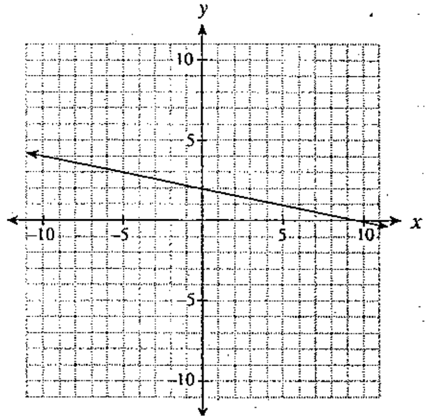
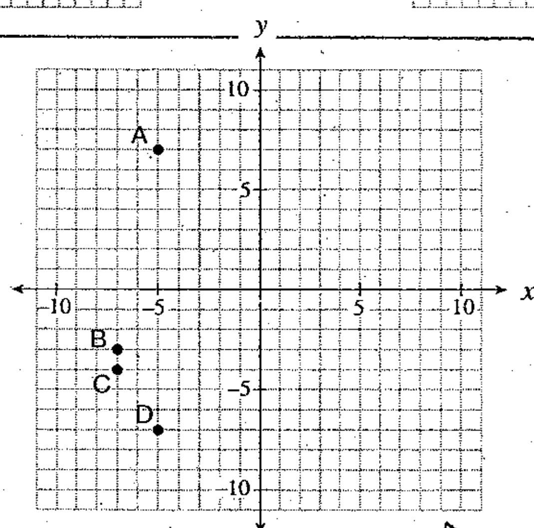


D.



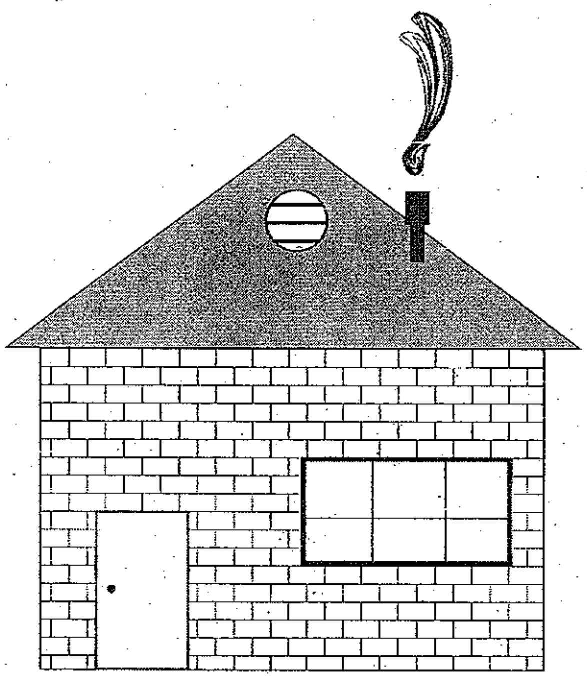


(4) The line $y - 2 = \frac{1}{2}(x - 5)$ passes through which point on the graph?

A. A
B. B
C. C
D. D

CALCULATOR PERMITTED

5. Use a ruler to determine the slope of the roof shown below.



Note: This diagram is drawn to scale.

A. $\frac{3}{8}$

B. $\frac{3}{4}$

C. $\frac{4}{5}$

D. $\frac{4}{3}$

6. Calculate the slope between the points $(7, -3)$ and $(4, 3)$.

A. -2

B. $-\frac{1}{2}$

C. 2

D. 10

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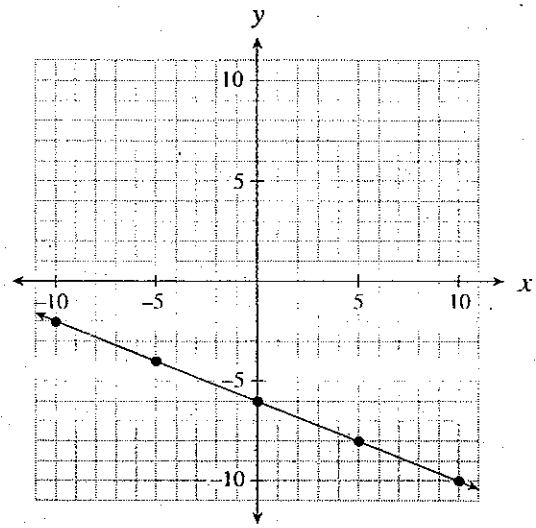
7 Which of the following relations could be produced by $y = \frac{2}{5}x - 6$?

I.	$2x - 5y - 30 = 0$
II.	$\{(15,\ 0),\ (10,\ -2),\ (-5,\ -8),\ (-10,\ -10)\}$
III.	

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

8 Determine the slope of the linear relation $3x + 5y + 15 = 0$.

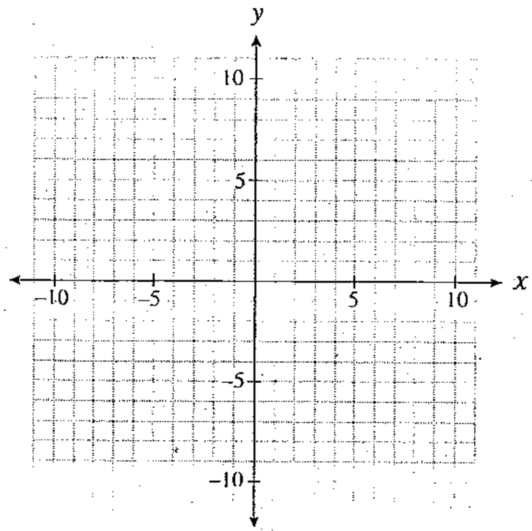
A. $\frac{5}{3}$

B. $\frac{3}{5}$

C. $-\frac{3}{5}$

D. $-\frac{5}{3}$

use for #9



(9) A line has a slope of $\frac{2}{3}$ and passes through the point $(6,\ 0)$. Which of the following points must also be on the line?

A. $(-3, -6)$
B. $(3, 8)$
C. $(4, -3)$
D. $(9, 3)$

(10) Kelly explained her method for graphing the linear relation $y = -\frac{2}{3}x + 7$ as follows:

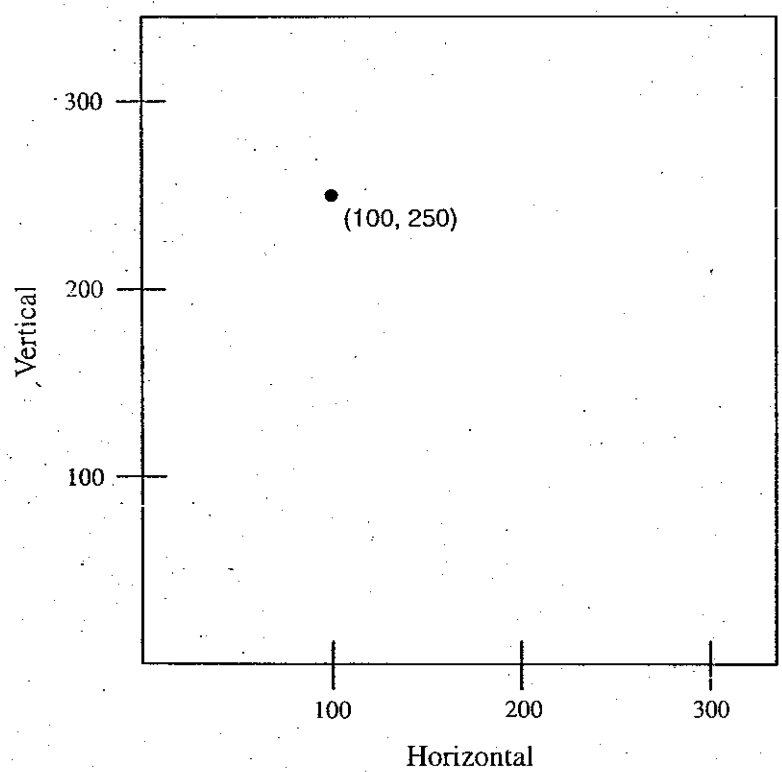
Steps	
I.	Place a dot on the y-axis at positive 7.
II.	Move up two on the y-axis to positive 9.
III.	From the positive 9, move to the left three spots and place a dot there.
IV.	Draw a line through the two dots.

Where did Kelly make the first mistake in her explanation?

A. Step I
B. Step II
C. Step III
D. There is no mistake.

(11) A video game programmer needs to simulate a shot on a gaming screen. The shot needs to have a slope of $\frac{6}{5}$ to a target at $(100,\ 250)$. If the shooter has a horizontal position of 65, what would be the shooter's position on the screen?

Video Screen



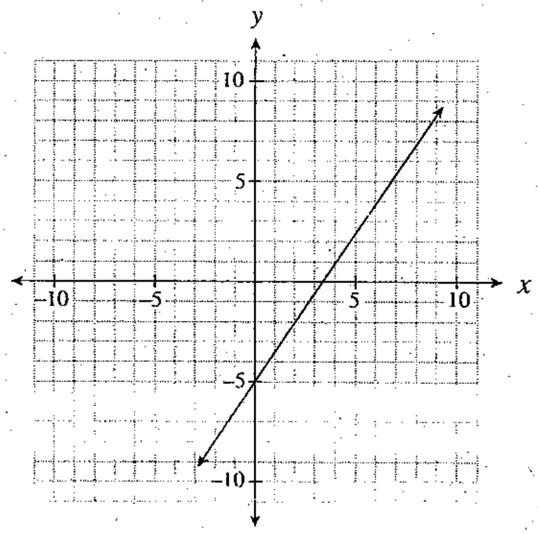
A. $(65,\ 78)$
B. $(65,\ 125)$
C. $(65,\ 208)$
D. $(65,\ 220.8)$

(12) A line with an undefined slope passes through the points $(-2,\ 1)$ and $(p,\ q)$. Which of the following points could be $(p,\ q)$?

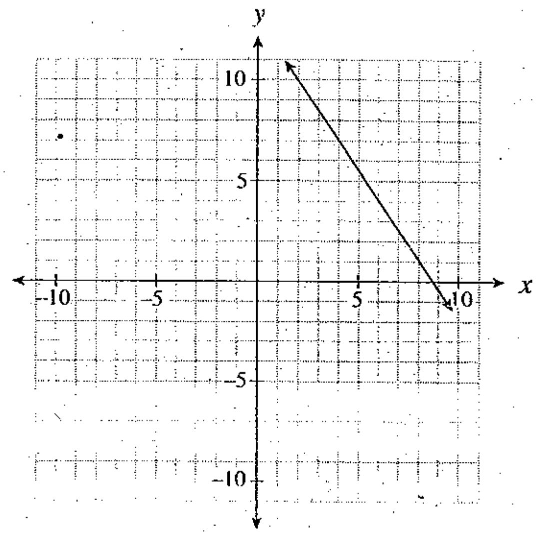
A. $(1,\ 0)$
B. $(0,\ 1)$
C. $(0,\ -2)$
D. $(-2,\ 0)$

(13) Which of the following graphs represents a line that passes through $(6,\ 4)$ and is perpendicular to $y=-\frac{2}{3}x$?

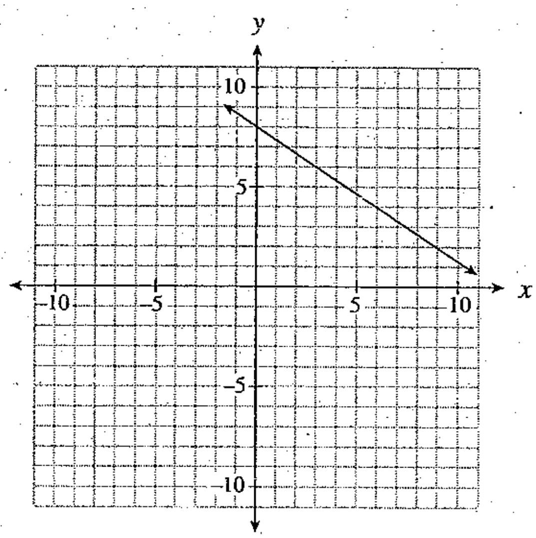
A.



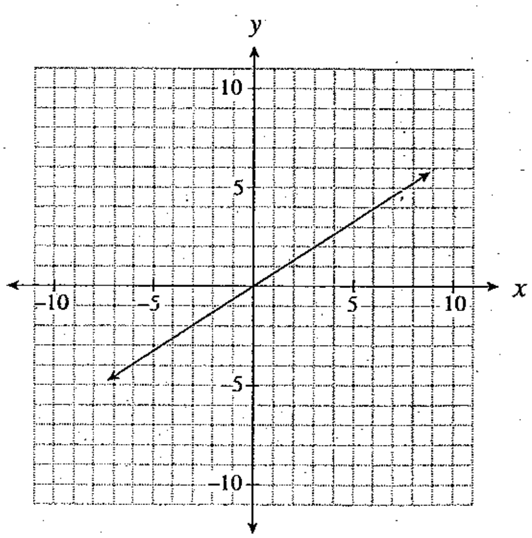
B.



C.



D.



(14) Two isosceles triangles have the same height. The slopes of the sides of triangle A are double the slopes of the corresponding sides of triangle B. How do the lengths of their bases compare?

A. The base of A is quadruple that of B.
B. The base of A is double that of B.
C. The base of A is half that of B.
D. The base of A is one quarter that of B.

15. Rewrite $y = \frac{x}{5} - 6$ in general form.

A. $\frac{x}{5} - y - 6 = 0$

B. $x + 5y - 6 = 0$

C. $x - 5y - 30 = 0$

D. $5x - 5y - 30 = 0$

16. Lines A and B are perpendicular and have the same x-intercept. The equation of line A is $x + 2y - 4 = 0$. Determine the y-intercept of line B.

A. -8
B. -2
C. 4
D. 8

17. Determine the slope-intercept equation of the line that is parallel to $y = \frac{2}{5}x - 3$ and passes through the point $(0, 5)$.

A. $y = -\frac{5}{2}x - 3$

B. $y = -\frac{5}{2}x + 5$

C. $y = \frac{2}{5}x + 3$

D. $y = \frac{2}{5}x + 5$

18. Given the equation $Ax + By + C = 0$, which of the following conditions must be true for the graph of the line to have a positive slope and a positive y-intercept?

A. $A > 0,\ B > 0,\ C > 0$
B. $A > 0,\ B < 0,\ C > 0$
C. $A > 0,\ B > 0,\ C < 0$
D. $A > 0,\ B < 0,\ C < 0$

19 . Which of the following lines have a negative slope?

I.	$y+3=0$
II.	$2x+y=6$
III.	$(y+2)=-4(x-5)$

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

20 . Which of the following statements are true for $2x+3y=6$?

I.	The y-intercept is -2.
II.	The line is parallel to $y=2x$.
III.	The slope-intercept form of the line is $y=\frac{2}{3}x+2$.
IV.	The range is all real numbers.

A. IV only
B. I and II only
C. I and IV only
D. III and IV only

21 . Determine the slope-intercept form of the line that passes through the point $(-4, 3)$ and is parallel to the line segment that joins $A(-1, -5)$ and $B(-3, 1)$.

A. $y=-3x-9$
B. $y=-3x+5$
C. $y=-3x+15$
D. $y=3x+15$

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22 . In which quadrant do the graphs of $x = -7$ and $y = 2x + 1$ intersect?

A. Quadrant I
B. Quadrant II
C. Quadrant III
D. Quadrant IV

Numerical Response

23 . The slope of AB is $-\frac{2}{3}$. The slope of CD is $\frac{w}{24}$. Given $AB \parallel CD$, determine the value of w. Answer as an integer.

Record your answer neatly on the Answer Sheet.

Answer

+ −

○ ○ □□□□.□□

24 A waterslide descends 20 m over a horizontal distance of 50 m. What is the slope of the waterslide? Answer, with a positive value, to the nearest tenth.

Record your answer neatly on the Answer Sheet.

Answer

+ −

○ ○ □□□□.□□

CHAPTER 6

Answer Key

No Calc. M/C

1. D
2. A
3. A
4. C

Calc. M/C

5. B
6. A
7. C
8. C
9. A
10. D
11. C
12. D
13. A
14. C
15. C
16. A
17. D
18. B
19. D
20. A
21. A
22. C

Numerical Response

23. + ○ − ● □ □ $\boxed{1}$ $\boxed{6}$. □ □

24. + ● − ○ □ □ □ $\boxed{0}$. $\boxed{4}$ □