Chapter 2 Test

1 $(1 \times 10^7) \times (5 \times 10^{21}) =$

A 2×10^{15}
B 2×10^{27}
C 5×10^{147}
D 5×10^{28}

(DOK 2)

2 $(2.8 \times 10^8) \div (7 \times 10^5) =$

A 4×10^{12}
B 4×10^2
C 4×10^{35}
D $4 \times 10^{1.4}$

(DOK 2)

3 $\frac{10^{-6}}{10^{-4}} \times \frac{10^{-7}}{10^{-2}} =$

A 10^{-6}
B 10^6
C 10^{-7}
D 10^7

(DOK 3)

4 Which expression is closest to $(9.81 \times 10^{-3})\,(3.75 \times 10^{-41})$?

A 3.68×10^{-43}
B 3.68×10^{-44}
C 1.07×10^{-43}
D 3.68×10^{39}

(DOK 2)

5 Put the following numbers in order from least to greatest.

$1.1 \times 10^{10} \quad 1.01 \times 10^9 \quad 1.11 \times 10^3$

A $1.01 \times 10^9 \quad 1.11 \times 10^3 \quad 1.1 \times 10^{10}$
B $1.11 \times 10^3 \quad 1.01 \times 10^9 \quad 1.1 \times 10^{10}$
C $1.1 \times 10^{10} \quad 1.11 \times 10^3 \quad 1.01 \times 10^9$
D $1.1 \times 10^{10} \quad 1.01 \times 10^9 \quad 1.11 \times 10^3$

(DOK 2)

6 $\frac{10^{-8}}{10^5} \div \frac{10^{-4}}{10^3} =$

A 10^{-20}
B 10^{-12}
C 10^6
D 10^{-6}

(DOK 2)

7 Miss Sheldon found a pint of ocean water contained beneficial bacteria numbering 1.7×10^5. Express this as a standard number.

A 17,000
B 170,000
C 1,700,000
D 17,000,000

(DOK 2)

8 Add: $1.24 \times 10^4 + 6.2 \times 10^2$

A 1.86×10^4
B 1.86×10^3
C 1.302×10^4
D 1.302×10^3

(DOK 2)

9 Subtract: $(6.7 \times 10^4) - (5.2 \times 10^3)$

A 6.18×10^4
B 6.18×10^3
C 1.109×10^4
D 1.5×10^3

(DOK 2)

10 Airplanes can go 1.9×10^3 miles per hour. If a flight between two secret locations is 1.2×10^4 miles, how many hours will it take the airplane to get to its destination?

A 6.3 hours
B 6.3×10^2 hours
C 2.3×10^1 hours
D 2.3×10^7 hours

(DOK 2)

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10 What sign would you place in the box below to accurately compare the two numbers?

$$\frac{5}{6} \square 0.83$$

A $>$
B $<$
C $=$
D You cannot compare a fraction and a decimal to each other.

(DOK 2)

11 Order the following numbers from least to greatest:

$$5.7,\ 57\%,\ \frac{5}{7},\ -5.7,\ -\frac{5}{7}$$

A $-\frac{5}{7}, -5.7, 57\%, \frac{5}{7}, 5.7$

B $-\frac{5}{7}, -5.7, \frac{5}{7}, 57\%, 5.7$

C $-5.7, -\frac{5}{7}, 57\%, \frac{5}{7}, 5.7$

D $-5.7, -\frac{5}{7}, \frac{5}{7}, 5.7, 57\%$

(DOK 2)

12 Charlie got 4 out of 7 right on a quiz. Rosa got 89% on her test. Francisco got 5 out of 8 right on his test. Beth got 87% on her quiz. Who earned the highest grade?

A Charlie
B Rosa
C Francisco
D Beth

(DOK 2)

13 The park manager determined that the width of the bird sanctuary is $\sqrt{6,754}$ feet wide. *Approximately*, what is this distance?

A 82.2 ft
B 83 ft
C 164.4 ft
D 13,508 ft

(DOK 2)

14 Lenny has to get gas every 325 miles and they are driving 1,021 miles to the concert. If he leaves on a completely full tank of gas (no miles on the tank), how many times will he have to stop on the way?

A 1
B 3
C 5
D 7

(DOK 2)

15 If the whole trip is 2,306 miles, and gas is \$2.41 per gallon, how much extra will they pay for gas?

A \$17
B \$1700
C \$286.79
D Not enough information

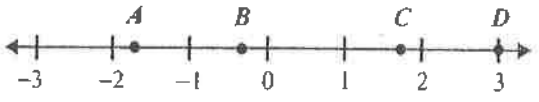
(DOK 2)

16 If 7 girls on the trip buy T-shirts for \$18.49 each, how much did all the shirts cost?

A \$129.43
B \$139.23
C \$143.29
D \$192.34

(DOK 2)

17 According to the number line, which point is $\sqrt{3}$?



A A
B B
C C
D D

(DOK 2)

Name: _____

Chapter 4 Review

Solve each of the following equations. (DOK 2)

1. $4a - 8 = 28$
2. $5 + \frac{x}{8} = -4$
3. $-7 + 23w = 108$
4. $\frac{y-8}{6} = 7$
5. $c - 13 = 5$
6. $\frac{b+9}{12} = -3$

Simplify the following expressions by combining like terms. (DOK 1)

7. $-4a + 8 + 3a - 9$
8. $14 + 2z - 8 - 5z$
9. $-7 - 7x - 2 - 9x$

Solve. (DOK 2)

10. $19 - 8d = d - 17$
11. $7w - 8w = -4w - 30$
12. $6 + 16x = 16x - 12$
13. $6(b - 4) = 6b - 24$
14. $4x - 16 = 7x + 2$
15. $9w - 2 = -w - 22$

US the distributive property to simplify the problems below. (DOK 1)

16. $3(-4x + 7)$
17. $11(2y + 5)$
18. $6(8 - 9b)$
19. $-8(-2 + 3a)$
20. $-2(5c - 3)$
21. $-5(7y - 1)$

Solve each of the following equations. (DOK 2)

22. $5x - 2x = 15$
23. $7a + 2a = 9$
24. $\frac{-11c - 35}{4} = 4c - 2$
25. $5 + x - 3(x + 4) = -17$
26. $\frac{5(n+4)}{3} = n - 8$
27. $3(x + 2) = 3x - 10$

Find the value of x that makes each equation true. (DOK 2)

28. $\frac{x}{5} + \frac{x}{4} = 3$
29. $\frac{x}{2.6} + 6.9 = 10.2$
30. $\frac{3x}{4} - \frac{x}{3} = 2$
31. $7 - \frac{3x}{5} = 1$

The problems below contain at least one error. Find the error(s) and correct the problem. Show your work for each step. (DOK 3)

32.
$4(2x - 2) + 12 = 21$
$8x - 8 + 12 = 21$
$8x - 4 = 21$
$8x - 4 + 4 = 21 + 4$
$8x = 25$
$\frac{8x}{8} = \frac{25}{8}$
$x = 3\frac{1}{8}$

33.
$6(x + 13) = 39$
$6x + 78 = 39$
$6x + 78 - 78 = 38 + 78$
$6x = 116$
$\frac{6x}{6} = \frac{116}{6}$
$x = 19\frac{1}{3}$

Chapter 5 Test

1 Which of the following is not a solution of $3x = 5y - 1$?

A $(3, 2)$

B $(7, 4)$

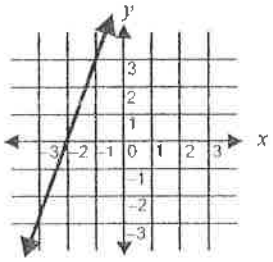
C $(-\frac{1}{3}, 0)$

D $(-2, -1)$

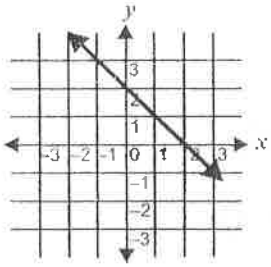
(DOK 2)

2 Which is the graph of $x - 3y = 6$?

A



B



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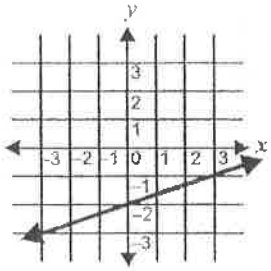
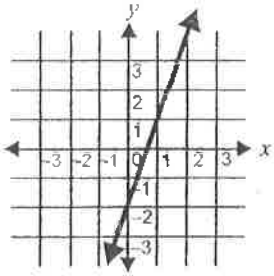


D



(DOK 2)

3 Which of the following points does not lie on the line $y = 3x - 2$?

A $(0, -2)$

B $(1, 1)$

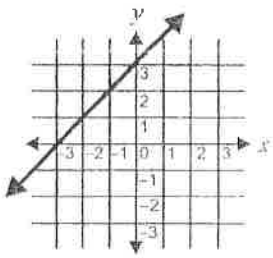
C $(-1, 5)$

D $(2, 4)$

(DOK 2)

4 Which of the following is the graph of the equation $y = x - 3$?

A



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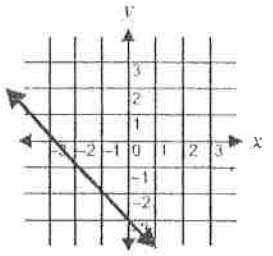

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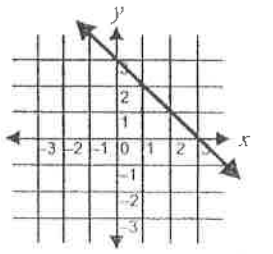
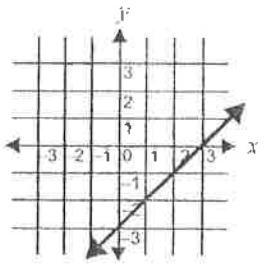


D



(DOK 2)

10 Put the following equation in slope-intercept form.

$2x - 3y = 6$

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

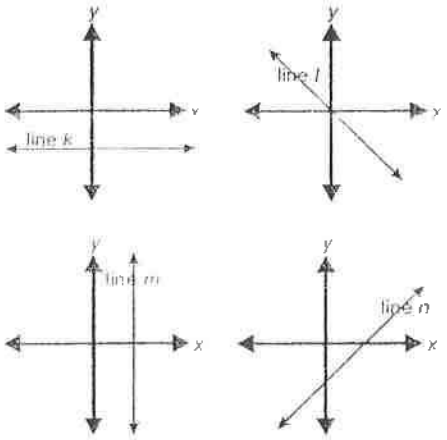
B $y = 2x - 2$

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

D $y = 2x + 2$

(DOK 2)

11 Look at the graphs below. Which of the following statements is false?



A The slope of line k is undefined.
B The slope of line l is negative.
C The slope of line m is undefined.
D The slope of line n is positive.

(DOK 2)

12 Which equation best represents the table below?

x	0	1	2	3	4
y	−5	−2	1	4	7

A $y = 3x + 5$
B $y = 3x - 5$
C $y = 3(x - 5)$
D $y = x - 5$

(DOK 2)

13 What is the equation for the data below?

Days Growing	Height in Inches
2	5
6	12

A $y - 5 = \frac{7}{4}x$

B $y = \frac{7}{4}x + 5$

C $y = \frac{4}{7}x - 5$

D $y = \frac{7}{4}x + \frac{3}{2}$

(DOK 2)

14 What is the equation for the data below?

Age in Years	Height in Inches
3	35
7	52

A $y = 17x + 4$

B $y = 4x + 4$

C $y = -\frac{17}{4}x + 89$

D $y = \frac{17}{4}x + \frac{89}{4}$

(DOK 2)

15 $(-2, 1)$ is a solution for which of the following equations?

A $y + 2x = 4$

B $-2x - y = 5$

C $x + 2y = -4$

D $2x - y = -5$

(DOK 2)

Chapter 6 Test

1 Consider the following equations:
$f(x) = 6x + 2$ and $f(x) = 3x + 2$
Which of the following is true concerning the graphs of these equations?

A The lines are identical.
B The lines intersect at exactly one point.
C The lines are parallel to each other.
D The graphs of the lines intersect each other at the point $(2, 2)$.

(DOK 2)

2 The graphs of the equations $2x + 2y = 4$ and $5x + 5y = 10$ are

A identical.
B parallel.
C intersecting.
D perpendicular.

(DOK 2)

3 What is the solution to the equations $y = 4x - 8$ and $y = 2x$?

A $(-4, -8)$
B $(4, 8)$
C $(-1, -2)$
D $(1, 2)$

(DOK 2)

4 What two numbers have a sum of 166 and a difference of 58?

A 89 and 77
B 49 and 117
C 65 and 101
D 54 and 112

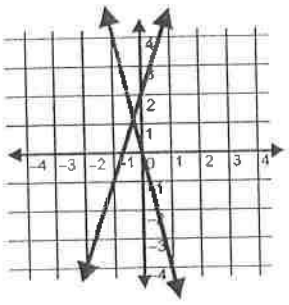
(DOK 2)

5 The admission fee at the fair is \$2 for children and \$5 for adults. Today, 1,700 people enter the fair and \$5,470 is collected. How many children and adults attended?

A children = 690, adults = 1,010
B children = 1,010, adults = 690
C children = 750, adults = 950
D children = 1,300, adults = 400

(DOK 3)

6 Two lines are shown on the grid. One line passes through the origin and the other passes through $(-1, -1)$ with a y-intercept of 2. Which pair of equations below the grid identifies these lines?



A $y = \frac{1}{4}x$ and $y = \frac{1}{3}x + 2$
B $x - 2y = 6$ and $4x + y = 4$
C $y = 4x$ and $y = \frac{1}{3}x$
D $y = 3x + 2$ and $y = -4x$

(DOK 2)

7 Which ordered pair is a solution for the following system of equations?

$-3x + 7y = 25$
$3x + 3y = -15$

A $(-13, -2)$
B $(-6, 1)$
C $(-3, -2)$
D $(-20, -5)$

(DOK 2)

8 For the following pair of equations, find the point of intersection (common solution) using the substitution method.

$-3x - y = -2$
$5x + 2y = 20$

A $(2, -4)$
B $(2, 5)$
C $(-16, 50)$
D $\left(\frac{1}{5}, \frac{1}{2}\right)$

(DOK 2)

Chapter 7 Test

1 What is the domain of the relation $\{(2,4)\,(3,7)\,(4,9)\,(6,11)\}$?

A $\{2,3,4,6\}$
B $\{4,7,9,11\}$
C $(2,4)$
D $(2,4)\,(3,7)$

(DOK 1)

2 Find the range of $y = 5x$ with a domain $\{1,2,3,4\}$.

A $\{1,2,3,4\}$
B $\{5,6,7,8\}$
C $\{5,10,15,20\}$
D $\{5,15,25,35\}$

(DOK 1)

3 Which ordered pair could be part of this function: $(2,4), (3,7), (9,1)$?

A $(4,1)$
B $(3,11)$
C $(2,9)$
D $(9,0)$

(DOK 2)

4 If $f(x) = 2x + 1$, what is $f(-3)$?

A 5
B -7
C -5
D 6

(DOK 1)

5 Which equation is represented by the function table below?

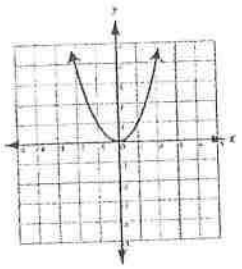
x	$f(x)$
1	8
2	14
3	20
4	26

A $f(x) = 3x - 1$
B $f(x) = \frac{1}{2}x + 1$
C $f(x) = 7x - \frac{3}{7}$
D $f(x) = 6x + 2$

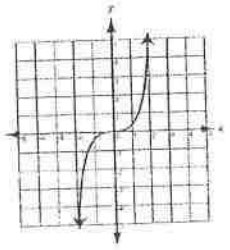
(DOK 2)

6 Which is not a function?

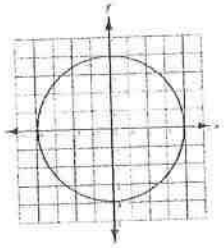
A



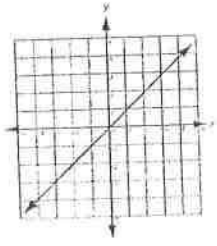
B



C



D



(DOK 1)

7 Which equation is represented by the function table below?

x	1	2	3	4	5	6
$f(x)$	$\frac{7}{2}$	4	$\frac{9}{2}$	5	$\frac{11}{2}$	6

A $f(x) = \frac{1}{2}x + 3$
B $f(x) = 7x - 2$
C $f(x) = \frac{1}{3}x + 2$
D $f(x) = \frac{3}{2}x + 4$

(DOK 2)

Chapter 7 Review

Find the domain or range according to the direction in each problem. (DOK 1)

1. What is the domain of the following relation? $\{(-1,2),(2,5),(4,9),(6,11)\}$

2. What is the range of the following relation? $\{(0,-2),(-1,-4),(-2,6),(-3,-8)\}$

3. Find the range of the relation $y = 5x$ for the domain $\{0,1,2,3,4\}$.

4. Find the range of the relation $y = \dfrac{3(x-2)}{5}$ for the domain $\{-8,-3,7,12,17\}$.

5. Find the range of the relation $y = 10 - 2x$ for the domain $\{-8,-4,0,4,8\}$.

6. Find the range of the relation $y = \dfrac{4+x}{3}$ for the domain $\{-7,-1,2,5,8\}$.

For each of the following relations given in questions 7–11, write F if it is a function and NF if it is not a function. (DOK 1)

7. $\{(1,2),(2,2),(3,2)\}$

8. $\{(-1,0),(0,1),(1,2),(2,3)\}$

9. $\{(2,1),(2,2),(2,3)\}$

10. $\{(1,7),(2,5),(3,6),(2,4)\}$

11. $\{(0,-1),(-1,-2),(-2,-3),(-3,-4)\}$

For questions 12–17, find the range of the functions for the given value of the domain. (DOK 2)

12. For $g(x) = 2x^2 - 4x$; find $g(-1)$

13. For $h(x) = 3x(x-4)$; find $h(3)$

14. For $f(n) = \dfrac{1}{n+3}$; find $f(4)$

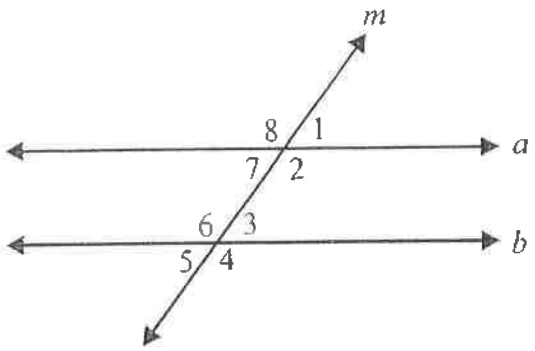
15. For $G(n) = \dfrac{2-n}{2}$; find $G(8)$

16. For $H(x) = 2x(x-1)$; find $H(4)$

17. For $f(x) = 7x^2 + 3x - 2$; find $f(2)$

Chapter 10 Test

Parallel lines a and b when cut by transversal m form eight angles, as shown in the diagram below. Use the following diagram for questions 1–3.



1 If $m\angle 1 = 80°$, which angles are supplementary to it?

A $\angle 7$ and $\angle 3$

B $\angle 8$ and $\angle 2$

C $\angle 5$ and $\angle 6$

D $\angle 2$ and $\angle 7$

(DOK 2)

2 Which of the following would you use to calculate the measure of $\angle 7$?

A $180° - m\angle 8$

B $m\angle 8 + 180°$

C $m\angle 1 + m\angle 2$

D $m\angle 2 + m\angle 4$

(DOK 2)

3 If $\angle 1 \ncong \angle 3$, then which is always true?

A line $m \perp$ line a

B line a and line b are not parallel

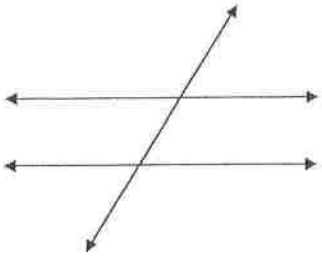
C $\angle 3 \ncong \angle 5$

D $m\angle 8 = 110°$

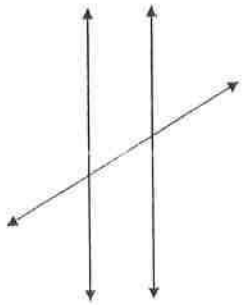
(DOK 3)

4 Which of the following shows eight $\cong$ angles?

A



B



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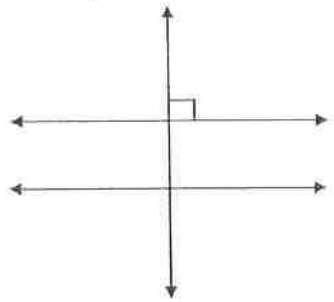
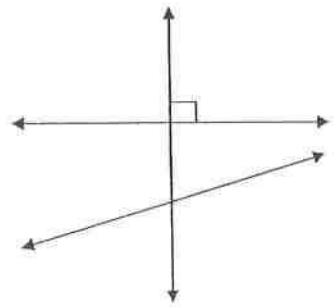


D



(DOK 1)

5 What is the sum of two complementary angles?

A 180°
B 45°
C 90°
D 360°

(DOK 1)

6 What is the measure of an angle that is supplementary to 87°?

A −42°

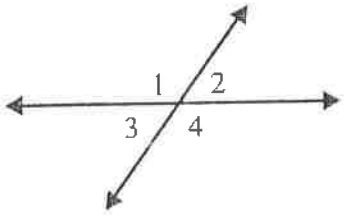
B 3°

C 273°

D 93°

(DOK 2)

7 In the diagram below, which two angles are adjacent?



A ∠1 and ∠2

B ∠2 and ∠3

C ∠1 and ∠4

D Both A and B are correct.

(DOK 1)

8 There are two complementary angles, of which, one of the two angles measures 85°. What would the measure of a supplementary angle be to the measure of the smaller of the two complementary angles?

A 95°

B 175°

C 85°

D 355°

(DOK 3)

9 Two adjacent angles are supplementary. One angle measures 45°. What type of angle is the other angle?

A acute

B right

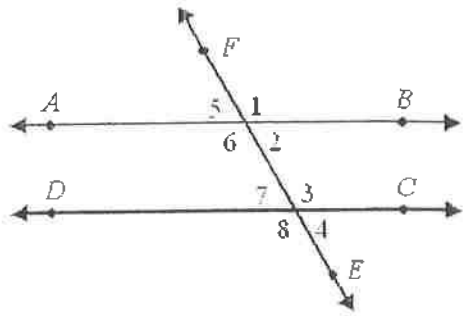
C obtuse

D straight

(DOK 3)

Use the following diagram to answer questions 8–11.

$\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$



10 Which statement is true about angles 1 and 6?

A They are interior angles.

B They are corresponding angles.

C They are complementary angles.

D They are vertical angles.

(DOK 1)

11 Which angles are alternate exterior angles?

A ∠2 and ∠7

B ∠3 and ∠8

C ∠1 and ∠8

D Both A and C are correct.

(DOK 1)

12 Which angles are alternate interior angles?

A ∠7 and ∠8

B ∠6 and ∠3

C ∠2 and ∠3

D Both B and C are correct.

(DOK 1)

13 Which statement is true about angles 2 and 4?

A They are corresponding angles.

B They are interior angles

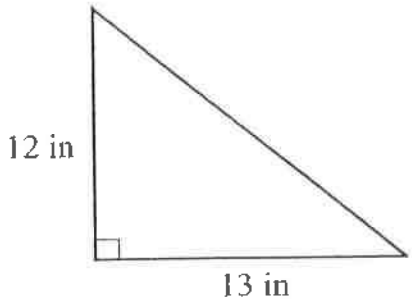
C They are complementary angles.

D They are vertical angles.

(DOK 1)

Chapter 11 Test

1 Approximately what is the measure of the hypotenuse of the triangle?



A 14 in
B 157 in
C 313 in
D 18 in

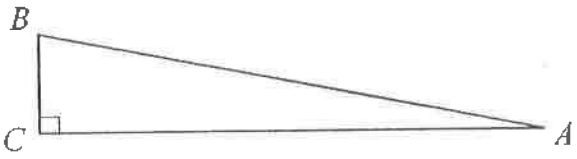
(DOK 2)

2 What is the measure of the missing side in a right triangle that has a hypotenuse measuring 25 cm and leg measuring 15 cm?

A 5 cm
B 29 cm
C 10 cm
D 20 cm

(DOK 2)

3 Which of the following is the correct set up to solve the Pythagorean theorem?



$m\overline{AB} = 40 \quad m\overline{BC} = 8 \quad m\overline{AC} = 39.2$

A $40^2 + 8^2 = 39.2^2$

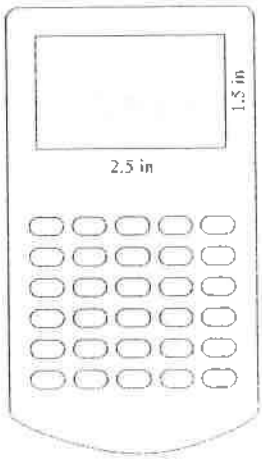
B $8^2 + 39.2^2 = 40^2$

C $39.2^2 - 8^2 = 40^2$

D $40^2 + 39.2^2 = 8^2$

(DOK 2)

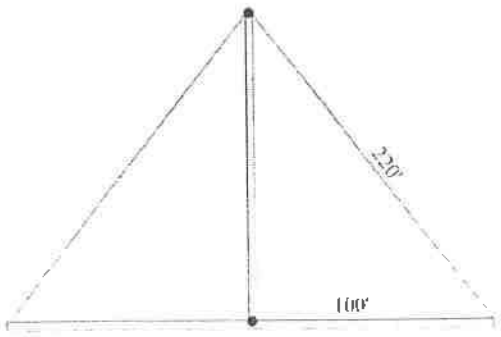
4 A graphing calculator's screen is about 2.5 inches wide and about 1.5 inches tall. What is the approximate diagonal length of the calculator's screen?



A 8.5 inches
B 4.0 inches
C 3.8 inches
D 2.9 inches

(DOK 2)

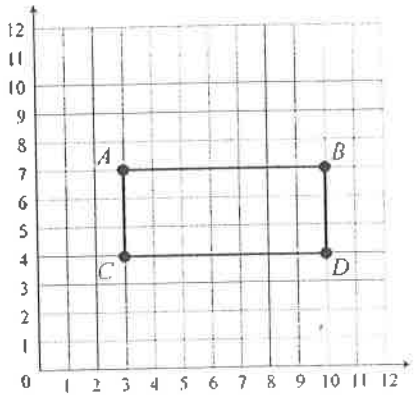
5 A suspension bridge is supported by a cable measuring 220 feet that is attached to the bridge 100 feet from the base of the tower. The other end of the cable is attached to the top of the tower. About how tall is the tower?



A 196 feet
B 242 feet
C 120 feet
D 320 feet

(DOK 2)

10 Which is closest to the straight-line distance between Points A and D on the grid?



A 7.6 units

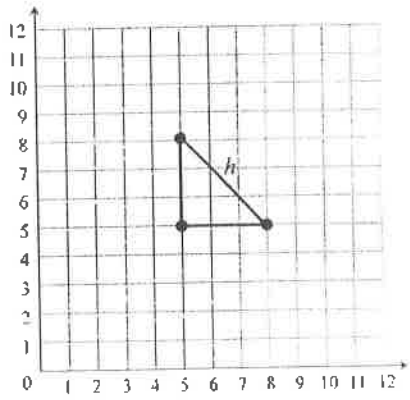
B 7 units

C 10 units

D 58 units

(DOK 2)

11 What is the approximate length of the hypotenuse, h ?



A 18 units

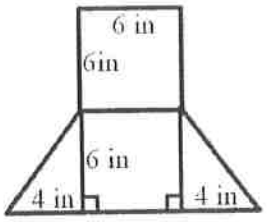
B 4.2 units

C 13 units

D 9 units

(DOK 2)

12 Find the perimeter of the compound figure below. You may use a calculator to find square roots and round the square roots to the nearest tenth.



A 40.4 in

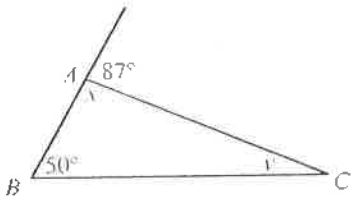
B 46.4 in

C 48

D 52.4

(DOK 3)

13 What is the measure of y?



A 93°

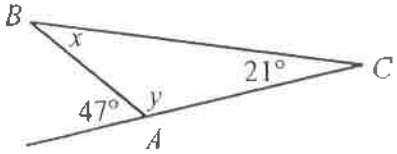
B 87°

C 37°

D Cannot be determined

(DOK 2)

14 What is the measure of the two missing angles?



A $x = 26°, y = 133°$

B $x = 47°, y = 112°$

C $x = 112°, y = 47°$

D $x = 133°, y = 26°$

(DOK 2)