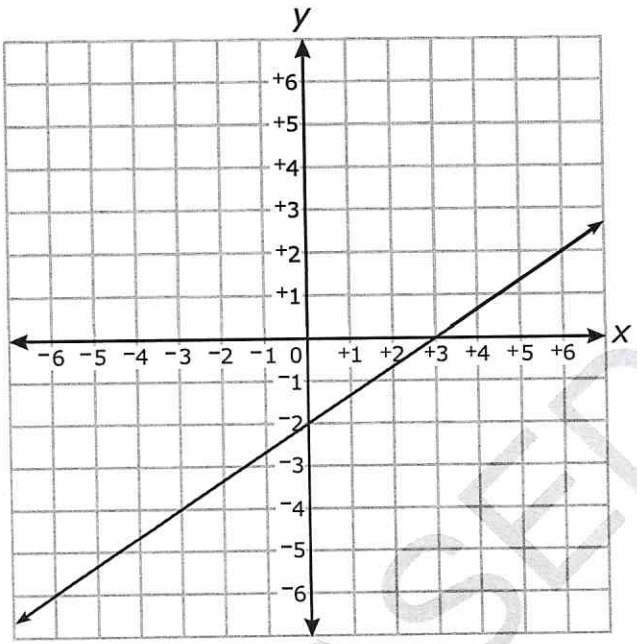
1 What is the equation of the line graphed below?



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

B $y = \frac{2}{3}x + 3$

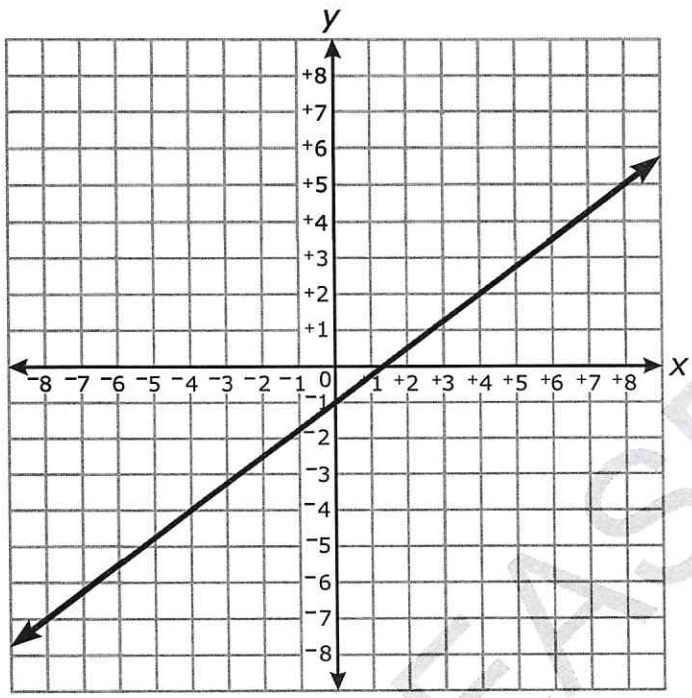
C $y = \frac{3}{2}x - 2$

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

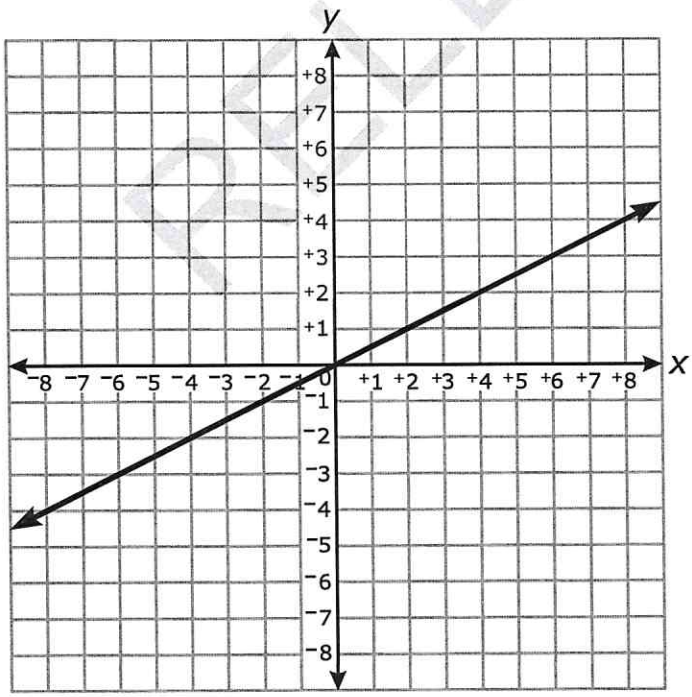
Go to the next page.

2 Which graph has a slope that is $\frac{1}{4}$ unit greater than the slope of the graph of $y = x - 2$?

A

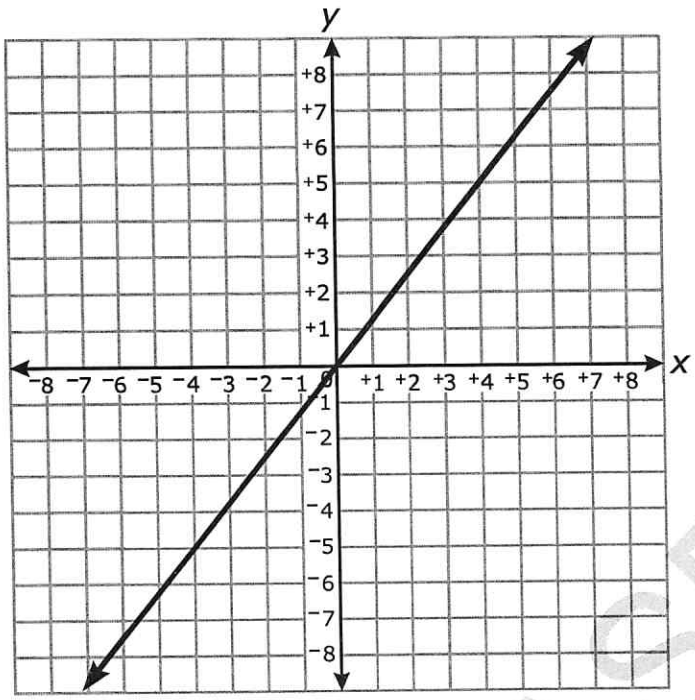


B

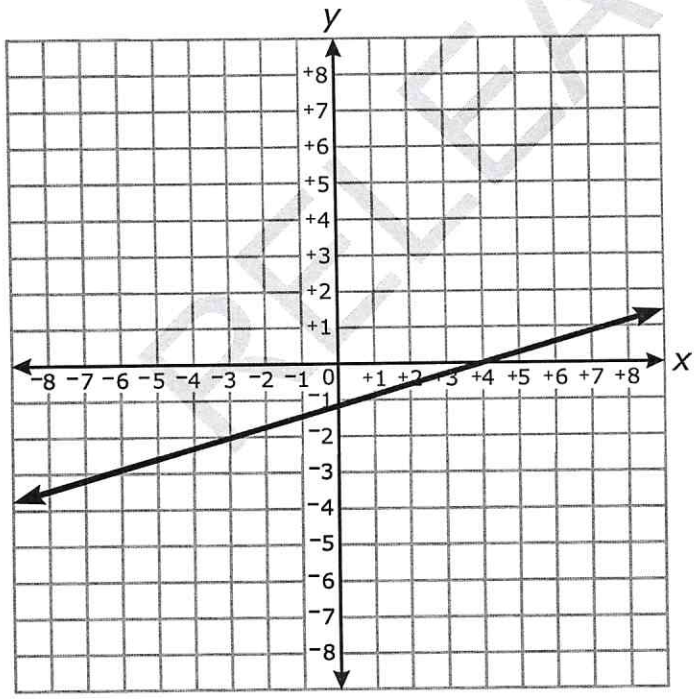


Answer choices C and D are on the following page.

C


y
x
+8 +7 +6 +5 +4 +3 +2 +1
−8 −7 −6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6 +7 +8
−1 −2 −3 −4 −5 −6 −7 −8

D


y
x
+8 +7 +6 +5 +4 +3 +2 +1
−8 −7 −6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6 +7 +8
−1 −2 −3 −4 −5 −6 −7 −8

3 Susan recorded the time she ate dinner and the number of calories she consumed during dinner for six consecutive days. The results are shown in the table.

Time	Calories
4:00 p.m.	600
5:30 p.m.	750
6:30 p.m.	700
5:30 p.m.	900
7:30 p.m.	400
8:30 p.m.	800

Which ***best*** describes the association between the time Susan ate dinner and the number of calories she consumed?

A positive

B negative

C irrational

D almost none

4 Which choice is an irrational number?

A $\frac{4\pi}{\pi}$

B $\sqrt{6^2}$

C $\sqrt{18}$

D 21.989

Go to the next page.

5 In which choice is y a nonlinear function of x?

A $y = \frac{x}{4} + 5$

B $y = 10 + x$

C $y = \frac{x + 3}{4} - 2x$

D $y = \frac{2}{x + 3} - 5$

6 Mr. Jones determined that the equation $y = 98 - \frac{16}{5}x$ could be used to predict his students' unit test scores, based on the number of days, x, a student was absent during the unit. What is the meaning of the y-intercept of the function?

A A student who was not absent during the unit should score about 98.

B A student who was not absent during the unit should score about 94.5.

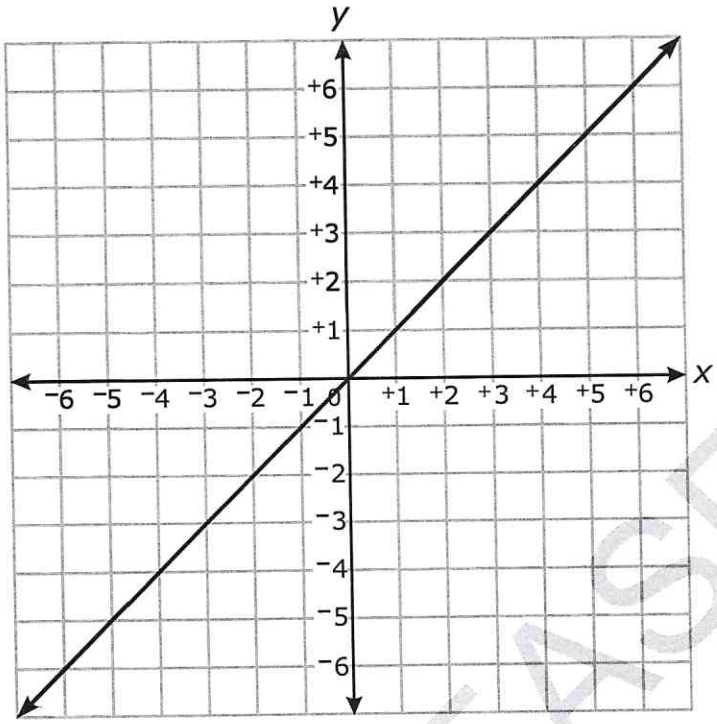
C A student's test score should increase by about 3.2 points for each day the student is absent.

D A student's test score should decrease by about 3.2 points for each day the student is absent.

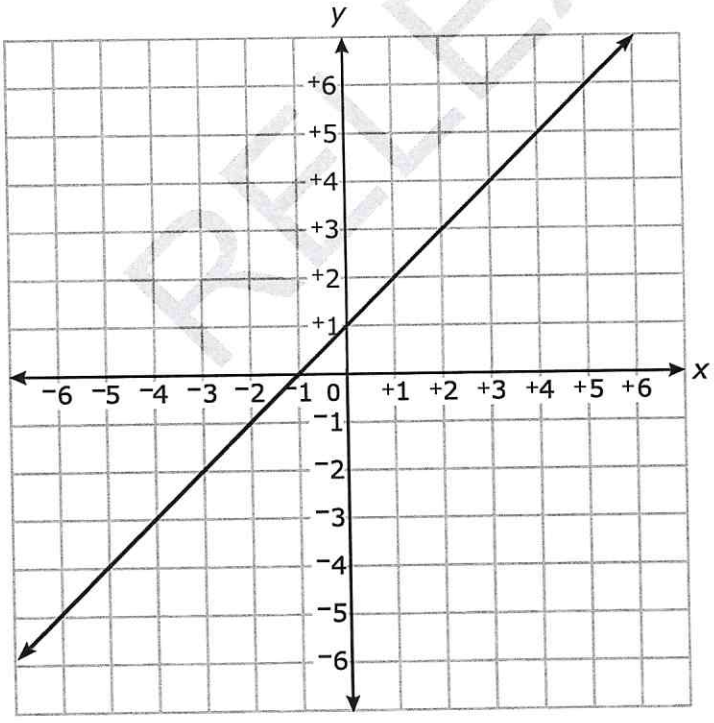
Go to the next page.

7 Which is the graph of the linear equation $y = -x$?

A

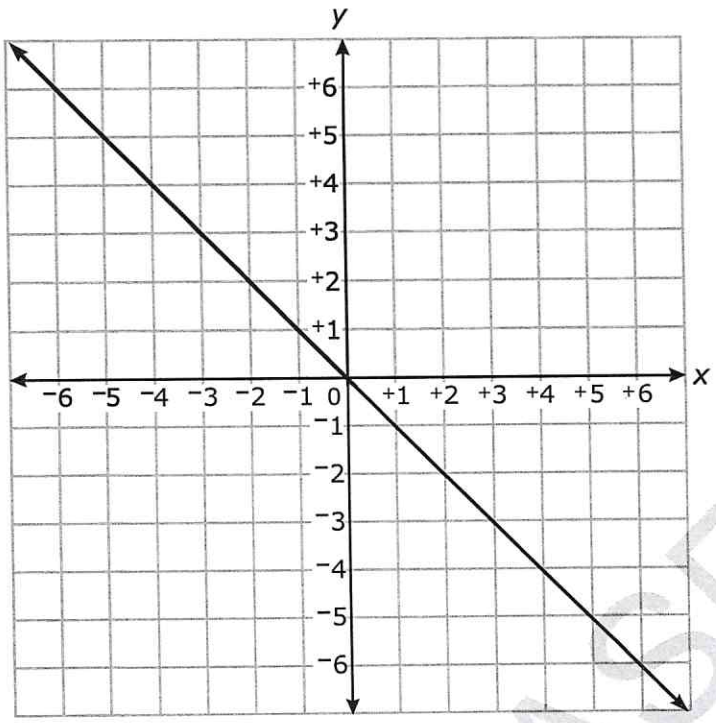


B

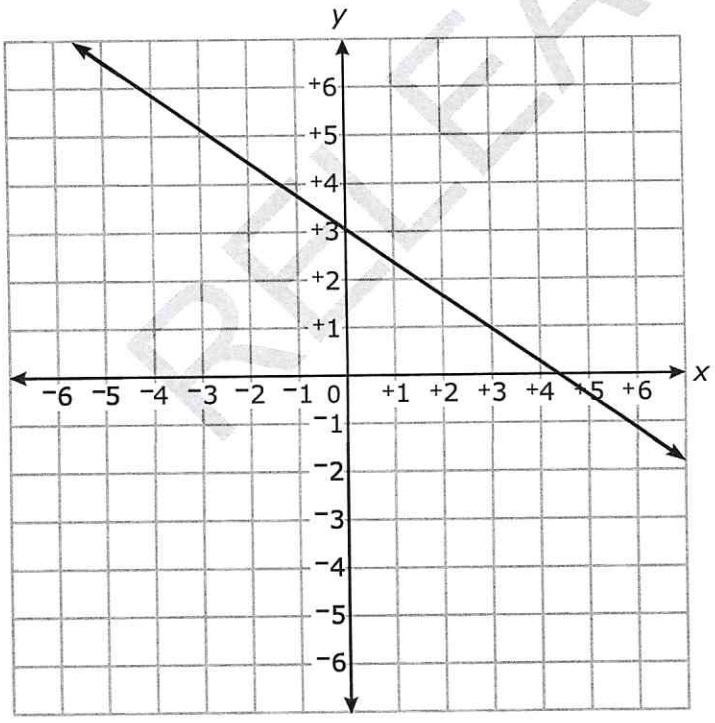


Answer choices C and D are on the following page.

C


y
x
+6
+5
+4
+3
+2
+1
−6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6
−1
−2
−3
−4
−5
−6

D


y
x
+6
+5
+4
+3
+2
+1
−6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6
−1
−2
−3
−4
−5
−6

8 In which choice is y a nonlinear function of x?

A

x	0	2	4	6	8
y	24	18	12	6	0

B

x	0	2	4	6	8
y	24	18	13	9	6

C

x	0	2	4	6	8
y	24	21	18	15	12

D

x	0	2	4	6	8
y	24	22	20	18	16

9 Which choice is both the square of an integer and the cube of an integer?

A 121

B 100

C 64

D 16

10 In which choice do all three points lie on the same straight line?

A $(0, 1), (^{-}1, 3), (1, 3)$

B $(4, 2), (2, 1), (4, ^{-}2)$

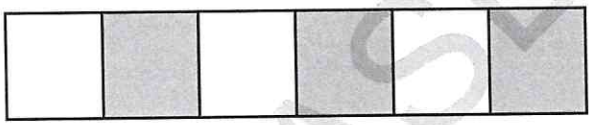
C $(0, 0), (8, 0), (0, 8)$

D $(1, 2), (2, 4), (4, 8)$

Questions 11 through 15 require you to write your answers in the boxes provided on your answer sheet. A sample grid is shown below each question, but your answer must be properly entered on the answer sheet to be scored. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

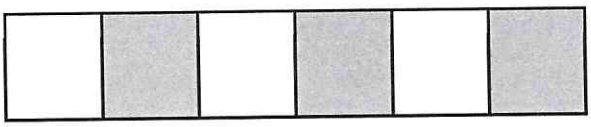
11 The area of a square is 49 cm^2. What is the perimeter, in cm, of the square?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



12 What is the slope of the line that passes through the points (2, 3) and (8, 6)?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

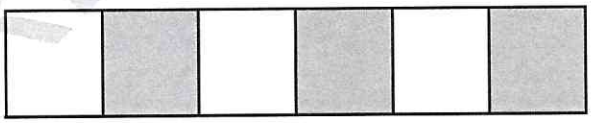


13 The table shows four quantities. Each quantity is assigned a numeric label.

Quantity	Numeric Label
$\frac{\pi^2}{4}$	1
$\frac{\pi^2}{8}$	2
$\sqrt{2}$	3
$\sqrt{3}$	4

- Order the quantities from least to greatest.
- Next, write the sequence of numeric labels in the same order as their corresponding quantities.
- This sequence of numeric labels is your answer.
- Enter your answer into the grid. (For example, if the order of the numeric labels were "1, 2, 3, 4," enter the answer as "1234".)

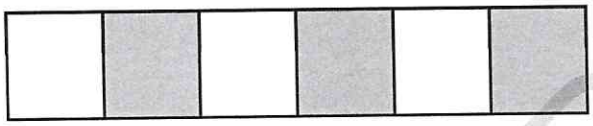
Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



14 What is the value of x in the equation shown below?

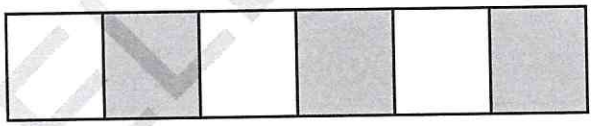
$$x^3 + 1 = 9$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



15 What positive integer is closest to the value of $\sqrt{230}$?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



This is the end of the calculator inactive test questions.

Directions:

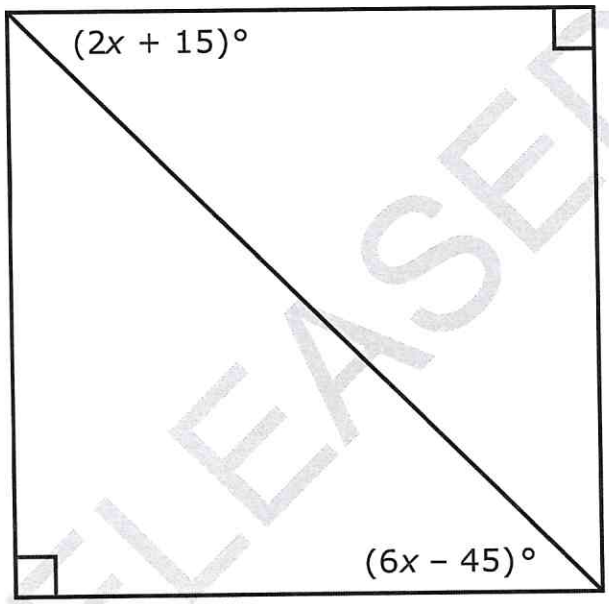
1. **Look back over your answers for the calculator inactive questions. You will not be able to go back and work on these questions once you are given a calculator.**

2. **Raise your hand to let your teacher know you are ready to begin the calculator active test questions.**

3. **Do not begin work on the calculator active test questions until your teacher has given you a calculator.**

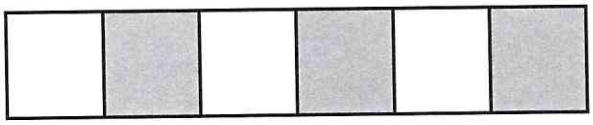
Questions 16 through 20 require you to write your answers in the boxes provided on your answer sheet. A sample grid is shown below each question, but your answer must be properly entered on the answer sheet to be scored. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

16 A square is drawn below.



What is the value of x?

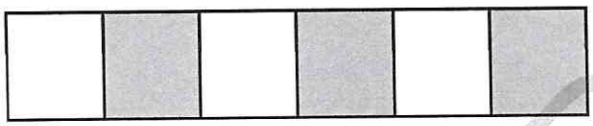
Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



17 What is the value of x in the equation shown below?

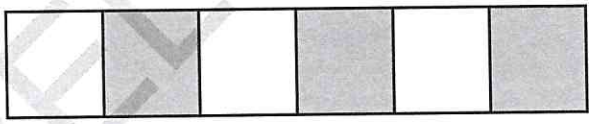
$$0.25x + 7 = 4(x - 2)$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



18 What is the rate of change of the linear function that has a graph that passes through the points (2, 9) and ($^-$1, 3)?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

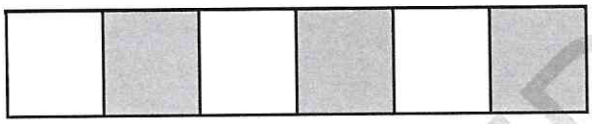


Go to the next page.

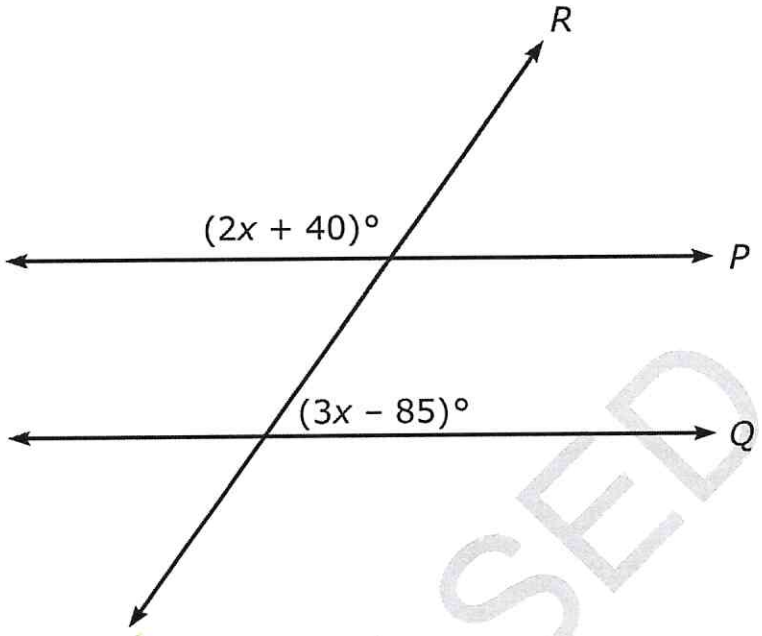
19 What value of x satisfies the equation below?

$$12(x - 2) + 3x = \frac{1}{2}(x + 6) + 2$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

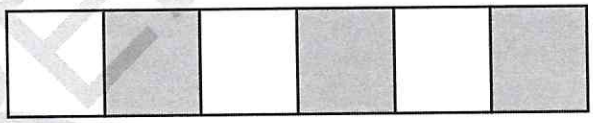


20 In the diagram, parallel lines P and Q are cut by transversal R.



What is the value of x?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.



21 A light year is defined as the distance light travels in one year. One light year is 9.46×10^{12} kilometers. A galaxy is about 150,000 light years wide. ***About*** how many kilometers wide is the galaxy?

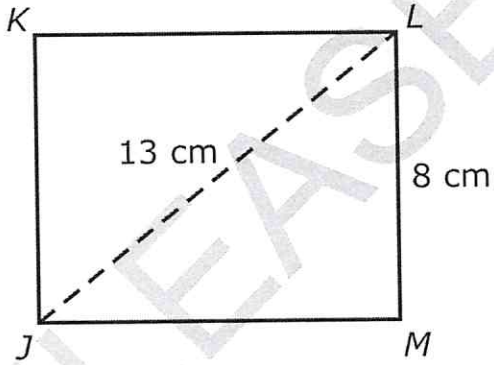
A 1.419×10^{16}

B 1.419×10^{17}

C 1.419×10^{18}

D 1.419×10^{19}

22 Rectangle *JKLM* is shown.



To the nearest tenth of a centimeter, what is the distance from *J* to *M*?

A 5.0 cm

B 10.2 cm

C 15.3 cm

D 21.0 cm