



MATHS

BOOKS - PRINCETON MATHS (ENGLISH)

ALEGBRA

Example

1. A ferry is used to transport vehicles that weight either 2 tons or 2.5 tons each. Let a be

the number of 2 ton vehicle and b be the number of 2.5 ton vehicles. The ferry can transport up to either 34 vehicles or a weight of 74 tons. Which of the following system of inequilities represents this relationship?

A.
$$\begin{cases} \frac{a}{2} + \frac{b}{2.5} \leq 74 \\ a + b \leq 34 \end{cases}$$

B.
$$\begin{cases} a + b \leq 74 \\ 2a + 2.5b \leq 74 \end{cases}$$

C.
$$\begin{cases} a + 2.5b \leq 34 \\ a + b \leq 74 \end{cases}$$

D.
$$\begin{cases} 2a + 2.5b \leq 74 \\ a + b \leq 34 \end{cases}$$

Answer: D



x	$g(x)$
-1	6
0	4
3	1
5	0

2.

The function g is defined by a polynomial
some of the value of x and $g(x)$ are shown in

the table above. Which of the following must be factor of g ?

A. $x - 6$

B. $x - 5$

C. $x - 4$

D. $x - 3$

Answer: B



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1. If $\frac{3x}{5} = \frac{x + 2}{3}$, what is the value of x?

A. $\frac{1}{2}$

B. 1

C. 2

D. $2\frac{1}{2}$

Answer: D



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2. If $\frac{5}{x} = \frac{y}{10}$ and $x - y = y$, what is the value of $y+x$?

A. 5

B. 10

C. 15

D. 25

Answer: C



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3. If 40 percent of x is equal to 160 percent of y , what is the value of $\frac{x}{y}$?

A. $\frac{1}{12}$

B. $\frac{1}{4}$

C. 4

D. 20

Answer: C



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Quick Quiz 2

1. If $\frac{x^2 + 5x + 6}{x + 2} = 12$, what is the value of x ?

A. -2

B. 2

C. 3

D. 9

Answer: D



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2. If $a - b = 3$ and $a^2 - b^2 = 21$, what is the value of a ?

A. -3

B. -2

C. 2

D. 5

Answer: D



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3. If $x < 0$ and $(2x - 1)^2 = 25$, what is the value of x ?

A. -2

B. 3

C. 4

D. 9

Answer: A



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Quick Quiz 3

1. If $3x + 5y = 15$ and $x - 2y = 10$, what is the value of $2x + 7y$?

A. 5

B. 10

C. 15

D. 25

Answer: A



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$$2. 3c - 4d = -11$$

$$4c - 3d = -3$$

If (c, d) is a solution of the system of equations above, what is the value of $c-d$?

A. 8

B. -2

C. -8

D. -14

Answer: B



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3. At a conference, 94 salespeople are discussing effective strategies to expand a customer base. The discussion had been divided into 20 subtopics, and each subtopic will be discussed by group of either 4 or 6 salespeople. How many of the subtopics will be discussed by a group of 6 salespeople?



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Quick Quiz 4

1. If $3x + 7 < 5x - 4$, which of the following is true?

A. $\frac{11}{2} < x$

B. $x < \frac{3}{2}$

C. $x < \frac{11}{8}$

D. $\frac{11}{2} > x$

Answer: A



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2. If $3b + 8 > 6 + 2b$, and b is a negative integer, what is the value of b ?

A. 0

B. -1

C. -2

D. -3

Answer: B



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3. A mail clerk estimates that a package will cost f dollars to ship, where $f > 20$. His goal is for the estimate to be within 2 dollars of the actual cost to ship the package. If the mail clerk meets his goal and it costs g dollars to ship the package, which of the following inequalities represents the relationship between the estimated cost and the actual shipping cost?

A. $-2 < g - f < 2$

B. $g > f + 2$

C. $g < f + 2$

D. $f + g < 2$

Answer: A



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Quick Quiz 5

1. If $f(x) = 2x^2 + 3$, for which of the following values of x does $f(x) = 21$?

A. -9

B. -3

C. 0

D. 1

Answer: B



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2. $h(x) = cx^2 + 18$

For the function h defined above, c is constant and $h(2)=10$. what is the value of $h(-2)$?

A. -10

B. -2

C. 10

D. 18

Answer: C



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3. The height of the steam burst of certain geyser varies with the length of time since the previous steam burst. The longer the time

since the last burst, the greater the height of the steam burst. If t is the time in hours since the previous steam burst and H is the height in meters of the steam burst, which of the following could express the relationship of t and H ?

A. $H(t) = \frac{1}{2}(t - 7)$

B. $H(t) = \frac{2}{t - 7}$

C. $H(t) = 2 - (t - 7)$

D. $H(t) = 7 - 2t$

Answer: A



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Quick Quiz 6

1. If $(3x)^2 = 81$, which of the following is a possible value of x ?

A. 2

B. 3

C. 6

D. 9

Answer: B



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2. If $2a + b = 8$, what is the value of $9^a 3^b$?

A. The value cannot be determined from the information gives

B. 3^8

C. 9^3

D. 27^4

Answer: B



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3. $\sqrt[5]{(x^{15}y^{3b})}$

For all positive value of x and y , which of the following is an equivalent form of the expression above?

A. $x^3 y^{\frac{3b}{5}}$

B. $x^{-10} y^{-2b}$

C. $x^{\frac{1}{3}} y^{\frac{5}{3b}}$

D. $x^{\frac{1}{10}} y^{\frac{1}{2b}}$

Answer: A



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