

Good and Beautiful


ANSWER

## ๕. KEY \%.

Good Secantiful

## Math 6 Answer Key

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матн 6

l. If the number is an integer, write "yes" on the line. If not, write "no."

$$
\begin{array}{rrrrr}
7 \text { yes } & -40 \text { yes } & 0 \text { yes } & \frac{4}{5} \text { no } \\
5.1 \begin{array}{l}
\text { no } \\
\hline \text { no }
\end{array} & \frac{1}{3} & -8.4 \begin{array}{l}
\text { no } \\
\hline
\end{array} & -21 &
\end{array}
$$

2. Write each of the expressions as an integer. Some examples are given.

| a loss of \$2,000 | $\underline{-2,000}$ | 500 ft below sea level | -500 |
| :---: | :---: | :---: | :---: |
| a drop of $15{ }^{\circ} \mathrm{F}$ | -15 | a debt of \$10 | -10 |
| a price increase of \$60 | 60 | a deposit of \$50 | 50 |
| 125 ft above sea level | 125 | a withdrawal of \$50 | -50 |
| 30 degrees below zero | -30 | a gain of \$45 | 45 |

3. Find the opposite of each number. Use the number line for help if necessary.


| Number | Opposite | Number | Opposite |
| :---: | :---: | :---: | :---: |
| 4 | -4 | 12 | -12 |
| 7 | -7 | -12 | 12 |
| -2 | 2 | -5 | 5 |
| -1 | 1 | 8 | -8 |
| 0 | 0 | 3 | -3 |

4. Find the absolute value of each number.

| $\|450\|$ | 450 | $\|-22\|$ | 22 | $\|0\|$ | 0 | $\|-108\|$ | 108 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\|15\|$ | 15 | $\|-15\|$ | 15 | $\|-3\|$ | 3 | $\|18\|$ | 18 |

5. Find the change from the first temperature to the second. Write the change as an integer.
$5^{\circ} \mathrm{F}$ to $15^{\circ} \mathrm{F} \quad \underline{10}$
$-50^{\circ} \mathrm{F}$ to $-25^{\circ} \mathrm{F} \quad 25$
$0^{\circ} \mathrm{F}$ to $-15^{\circ} \mathrm{F} \underline{-15}$
$-10^{\circ} \mathrm{F}$ to $-35^{\circ} \mathrm{F}-25$
$25^{\circ} \mathrm{F}$ to $15^{\circ} \mathrm{F} \underline{-10}$
$-5^{\circ} \mathrm{F}$ to $15^{\circ} \mathrm{F} \quad \underline{20}$
6. Compare the following using $<,>$, or $=$.
$|0| \odot|-5| \quad 7 \otimes|2| \quad|-4| \ominus|4|$
$|5| \otimes 7$
$|-15| \&|-23|$
$32 \otimes|-30|$
7. Cross off the incorrect absolute values.
$|-15|=15$

$|5|=5$




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## COMPLEX FRACTIONS

$\qquad$ Simplify the complex fractions.

## DISTRIBUTIVE PROPERTY \& FACTORING <br> Lessons 47 \& 48

Write the second factor in expanded form, and then use the distributive property to multiply.

$$
\begin{aligned}
3 \bullet 821 & =3(800+20+1) \\
& =2,400+60+3 \\
& =2,463
\end{aligned}
$$

$$
\begin{aligned}
7 \cdot 1,028 & =7(1,000+20+8) \\
& =7,000+140+56 \\
& =7,196
\end{aligned}
$$

Factor each expression.
$9+63=9(1+7) \quad 24+18=6(4+3) \quad 75+15=15(5+1)$

## COMPLEMENTARY \&

## SUPPLEMENTARY ANGLES

Find the complementary angle measures.
$63^{\circ} \underline{27^{\circ}}$
$18^{\circ} 72^{\circ}$

SQUARE ROOTS. CUBE ROOTS \&
COMBINING LIKE TERMS Lessons 33 \&
Complete each problem.
$\sqrt{144}-\sqrt[3]{64}=\underline{8}$
$\sqrt[3]{125}+\sqrt{100}=15$
$\sqrt{121} \cdot \sqrt[3]{8}=\underline{22}$
$\frac{1 \frac{3}{4}}{\frac{1}{2}}=3 \frac{1}{2}$
$\frac{\frac{2}{3}}{4}=\frac{1}{6}$
$\frac{\frac{1}{4}}{\frac{5}{8}}=\frac{2}{5}$

Find the supplementary angle measures.
$20^{\circ} \underline{160^{\circ}} \quad 145^{\circ} \underline{35^{\circ}}$

Cross out the statements that are not true.
$3 a+8 b+2 a=5 a+8 b \quad-4 x \quad y=3 x y$
$2 r+4 r^{2}=6 r$

$$
5 m+4 n-n=5 m+3 n
$$

SYMMETRY, TRIANGLES \& SEMICIRCLES Lessons 36,39 \& 42
Write the missing angle measures on each triangle. Then circle the triangle(s) that have rotational symmetry.


Find the area and perimeter of the semicircle.


## ANGLES

Classify each angle as acute (A), right (R), obtuse (O), or straight (S)

| $90^{\circ}$ | R |
| :--- | :--- |
| $15^{\circ}$ | A |
| $173^{\circ}$ | O |
| $180^{\circ}$ | S |

$A \approx 353.25 \mathrm{~mm}^{2}$
$P \approx 77.1 \mathrm{~mm}$

## TRANSFORMATIONS

Translate each shape according to the information given.

Translate the parallelogram 3 units left and 2 units up. Then reflect it over the $x$-axis.


Translate the trapezoid 2 units right and 4 units down. Then reflect it over the $y$-axis.



Regardless of which season it is where you are right now，today you will participate in brain－stretching activities for all four seasons：winter，spring， summer，and fall．

## Spring

Welcome to spring！Clover is one of the first plants to turn green and begin to thrive each spring．Clovers usually have three leaves，but sometimes a very rare four－leaf clover can be found．In the puzzles below，make each number in the list using exactly four 4 s and different operations．You can add，subtract，multiply，divide，or use square roots． You may need parentheses as well．Four examples are given．


Answers will vary



What did summer say to spring？ $\frac{\mathrm{T}}{>} \frac{\mathrm{O}}{\bullet_{\bullet}} \quad \frac{\mathrm{F}}{\square} \frac{\mathrm{A}}{-} \frac{\mathrm{L}}{1 \cdot} \frac{\mathrm{~L}!}{1 \cdot}$

CIPHER


A large cooler of water weighs 40 lb ．
What must you put in it to make it weigh 20 lb ？


What fruit doesn＇t like to be alone？


Use the cipher at the bottom of the page to answer the summer picnic riddles．Use the given answer to the first riddle to figure out how the cipher works．
$\uparrow$ Hint：Once you figure out the code for a letter，fill in all the
What does the sun drink out of？blanks for that letter on the page．
 －Jenny Phillips

## Fall

Find the numerical value of each of the four fall items：leaf，apple， pumpkin，and scarecrow．$\succ$ Hint：Don＇t try to solve the equations in order．

Only one equation can be solved first，and the solution to that equation will help you solve another equation．


Winter
Four different families have planned a family ski trip to four different countries during four different winter months．Use the clues to figure out which family is going to which country during which month．

| Hint：Once you know an answer，put a $\checkmark$ in that box and fill in the rest of the row and column of that $4 \times 4$ box with $X$ s．You may need to go through the clues more than once．You may use a map if needed． |  | Month |  |  |  | Country |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { む } \\ & \text { E } \\ & \text { Ü } \\ & 0 \end{aligned}$ |  |  |  | $\begin{aligned} & \text { ت } \\ & \text { 荡 } \\ & \text { N } \\ & \text { B } \end{aligned}$ |  | U © 岂 | 艺 |
| $\stackrel{B}{E}$ | Schmidt | X | $\checkmark$ | X | X | $X$ | $X$ | X | $\checkmark$ |
|  | Noor | $X$ | $X$ | $X$ | $\checkmark$ | $\checkmark$ | $X$ | $X$ | $X$ |
|  | Chen | $X$ | $X$ | $\checkmark$ | X | $X$ | $\checkmark$ | $X$ | $X$ |
|  | Lopez | $\checkmark$ | $X$ | X | X | X | X | $\checkmark$ | $X$ |
| $\begin{aligned} & \text { B } \\ & \text { B } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | Switzerland | $X$ | $X$ | $X$ | $\checkmark$ |  |  |  |  |
|  | United States | X | $X$ | $\checkmark$ | $X$ |  |  |  |  |
|  | France | $\checkmark$ | $X$ | $X$ | X |  |  |  |  |
|  | Canada | X | $\checkmark$ | X | $X$ |  |  |  |  |

I．The Chen family is not going to Europe．
2．The family who is traveling to France will go during the week of Christmas．
3．The Noor family is not traveling to North America．
4．The Schmidt family will travel three weeks after the family who is going to France and will visit the country north of the United States．
5．The Chen family will be traveling one month after the Schmidt family and one month before the Noor family．


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