

Chinese Boxes Review Practice Problems Revised

A-1

The product of 2 integers is 72. If one of the integers is -18, what is the other integer?

A-2

Stefani is 8 years old. Stefani is 4 years more than Mikki's age. How old is Mikki?

A - 3

Mr. Hill is 5 times as old as his daughter, Katie. In 18 years, Mr. Hill will be only twice Katie's age. How old is Katie now?

A - 4

Thirty-six more than 5 times a number is 47. What is the number?

A - 5

The difference of 2 integers is 26. The lesser integer is -11. What is the other integer?

A - 6

Twice a number increased by 11 is equal to 32 less than three times the number. Find the number.

B - 1

The perimeter of a triangle is 61 cm. One side is 4 cm. longer than the smallest side, and the third side is 9 cm. longer than the smallest. What is the length of the smallest side?

B - 2

The perimeter of a rectangle is 21 inches. What is the measure of its width if its length is 3 inches greater than its width?

B - 3

The perimeter of a rectangle is 104". The width is 6 inches less than 3 times the length. Find the width of the rectangle.

B - 4

The perimeter of a triangle is 89 in. The second side is 6 less than three times as long as the first side and the third side is 5 greater than the first side. What are the measurements of the three sides?

B - 5

The perimeter of a triangle and a square are equal. The triangle has sides which measure 12m, 8m, and 16 m. What is the side measurement of the square?

C - 1

Janet sells used cars in Framingham. She earns a base salary and a bonus. Her bonus is $\frac{1}{8}$ of her annual sales. Her base salary is \$23,000 and she sells \$250,000 of cars this year. How much money does she make?

C - 2

You are a sales representative for Apple Computers. Each year your bonus is $\frac{1}{15}$ of the amount by which you exceed your previous year's sales. Last year your sales totaled \$350,000 and this year your bonus was \$12,500. What were your sales this year?

C - 3

Mr. Farroba decides to become a sales representative for a school supplies company. He receives a bonus that is one-fifteenth of the amount by which he exceeds his previous year's sales. This year his sales totaled \$386,000. If this year's bonus was \$8500, what were his total sales last year?

C - 4

Last year your mom decided she wanted to start a franchise to sell beautiful clothes from her house. Her new salary was \$42,000. She also receives $\frac{1}{60}$ of the profit she makes for the year as her bonus. This year her bonus was \$1500. How much profit did her company make this year?

C - 5

You become manager of a local restaurant on 109. Your salary will be \$78,000 plus a bonus of $\frac{1}{12}$ of the restaurant's sales for the year. Your restaurant earns \$870,000 for the year. What is your salary plus bonus for the year?

D-1

A coat costs \$65 more than a dress. Together they cost \$113. How much does the dress cost?

D-2

Dan has 3 times as many quarters as dimes. He has 220 dimes and quarters altogether. How many of each coin does he have?

D-3

The sum of Janet's and Lauren's ages is 31. Lauren is 3 years younger than Janet. How old is Lauren?

D-4

Jane scored 14 points less than the points Natalie scored. Together they scored 46 points. How many points did each girl score?

D-5

A hospital has 1550 patients. If there are 128 more female patients than male patients, find the number of female and male patients.

D-6

Together Bob and Nat earned \$380. Bob earned 6 less than 4 times as much as Nat. How much did each man earn.

D-7

A Doberman weighs twice as much as a cocker spaniel. If together the dogs weigh 135 pounds, how much does each dog weigh?

D-8

Tina threw a discus 6 less than three times the distance that Kim threw it. The sum of their throws was 280 feet. How far did each throw the discus?

D-9

TKY High School sold 842 tickets to their carnival. They sold 512 more children's tickets than adult tickets. How many of each type did they sell?

D-10

Together Cyndi and Joe lifted 75 lbs. If Cyndi lifted 6 less than $\frac{1}{3}$ the weight that Joe lifted, how much did each person lift?

D - 11

One angle of a triangle has a measure of 20° . The measures of the other 2 angles are four times as big as the first angle. What are the measures of all the angles?

D - 12

Doris bought 2 pairs of shoes. She started with \$95 and had \$20 left after her shoe purchase. If one pair of shoes costs \$5 more than the other, what was the cost of each pair?

D - 13

Steve has a rectangular garden with a perimeter of 60 m². The length of the garden is 7 meters more than the width. What are the length and width of the garden?

D - 14

Ariel has 13 nickels and dimes. The coins have a total value of 95 cents. How many dimes does Ariel have?

D - 15

The repair bill for Mr. Parson's car was \$25 more than 3 times the mechanic's estimate. If the total bill \$869, what was the estimate?

D - 16

Marco is 14 years old. This is 4 years less than $\frac{1}{2}$ his mother's age. How old is his mother?

D - 17

Mr. Thomas has 2 jobs. The first pays him \$50 more per week than the second. His total earnings are \$220 per week. How much does he earn from each job?

D - 18

Juanita lost her tennis racket. She bought a new racket for \$30. This is \$6 less than three times the price of her old one. How much did she pay for the old racket?

D - 19

The measure of the first angles of a triangle is 3 times the measure of the second angle. The measure of the third angle is twice the measure of the second angle. What is the measure of each angle?

E - 1

Ed's three quiz grades were 84, 90 and 92. What is the lowest grade he can receive on the next quiz in order to have any average greater than 90?

E - 2

Julio likes to have an average of 119 for his bowling games during a tournament. So far he has bowled 4 games and his scores were 123, 108, 127 and 118. How much does he need to bowl in his 5th game to keep his 119 average?

E - 3

Wilcox Candy Company likes to keep the average starting employee salary at \$30,000. So far they have hired 5 new employees with 7 employees earning \$26,000, 3 earning \$38,000 and 2 earning \$16,000. What do the last 2 employees they will hire need to earn to keep the \$30,000 salary average? (they will each earn the same amount)

E - 4

Hannah's sales goal for the month is an average of \$5,000 a week. Week 1 she sold \$3800, week 2 \$6300, week 3 \$5600. How much must she sell in the 4th week to keep up her average?

E - 5

Lori wants to run an average of $4\frac{3}{4}$ miles. She ran $5\frac{1}{2}$ miles on Monday, $6\frac{1}{4}$ miles on Tuesday, $4\frac{1}{2}$ miles on Wednesday, and $2\frac{3}{4}$ miles on Thursday. How many miles does she need to run on Friday to keep up her average?

E - 6

Your brother just got his permit and he needs to drive a certain amount of hours before he can get his license. Your parents help him figure out that he must drive an average of 2 hours a week for the 24 weeks that he will have his permit. He has one more week left and he wants to figure out how many more hours he must drive to this week to keep up with his average. He checks in his notebook and sees that he drove:

- ❖ 1.5 hours for 6 weeks
- ❖ 2 hours for 3 weeks

- ❖ 4 hours for 1 week
- ❖ 3 hours for 4 weeks
- ❖ 2.5 hours for 2 weeks
- ❖ 1 hour for 3 weeks
- ❖ 3.5 hours for 4 weeks

How many hours does he need to drive this last week?

F - 1

You and your friends decide to sell the beaded bracelets you have been making all summer. The beads, string, elastic and clasps cost you \$79. You decide to sell the bracelets for \$.75 each and you and your friends would love to have a final profit of \$100 to share. How many bracelets do you have to sell to make this profit?

F -2

The Shoot-a-thon is this Saturday and you would like to join. You need to purchase a basketball and a special t-shirt for \$55 in order to play. The event is sponsored by Nike and they are giving each player 80 cents for every shot that goes in. You are saving to buy a new I Pod and need \$85 more. How many shots do you have to make to have a profit of \$85?

F - 3

My mother makes the best Baklava. This is a special Greek dessert which is delicious. She spends \$18 in ingredients to make a batch of 24 pieces. How much would she need to sell each piece for to make any profit?

F - 4

Four high school and college friends started a business of remodeling and selling old automobiles during the summer. For this purpose they paid \$600 to rent an empty barn for the summer. They obtained the cars from a dealer for \$250 each, and it takes an average of \$410 in materials to remodel each car. How many automobiles must the students sell at \$1,440 each to obtain a profit of \$7,000?

F - 5

A few carpenters got together and decided to refinish old furniture. They paid \$1200 for 8 dressers that were in pretty bad shape. They spent \$225 on supplies and wanted to make a profit of \$1000. How much do they need to sell each dresser for to make that profit?

G - 1

Teresa is paid \$180 per week plus \$12 for each garment she sells. If she wishes to earn at least \$350 per week, how many garments must she sell?

G - 2

Louie bought a wood stove to reduce energy costs. He paid \$450 for the stove and he bought 3 cords of wood. What is the cost of each cord of wood if the total he spent was \$828?

G - 3

Carlie receives \$12 as a bonus for babysitting on New Year's Eve. She makes \$90 for the evening and is there for 6 hours. How much does she make per hour?

G - 4

The cost of renting a bike at the bike shop in the center of Nantucket is \$8 plus \$15 per hour for the hours that the bike is rented. If the total spent was \$68, for how many hours was the bike rented?

G - 5

The cost of shipping a package through Shipping Express is \$4.85 plus \$2 per ounce of the weight of the package. Sally only has \$10 to spend on shipping costs. What is the maximum number of ounces Sally can ship for \$10? (use an inequality)

G - 6

Verizon charges a base fee of \$35 a month for the use of a cell phone. Each additional call made adds \$.25 to the monthly charge. How many calls can you make and not spend more than \$55 for the month?

G - 7

Brady's Gym charges a membership fee of \$350 a year, but you must pay \$8 for any additional classes you take. How many classes can you take and not spend more than \$475 a year?

H-1

Carol Pin's scores for 3 games of bowling were consecutive whole numbers. The sum of her scores was 315. Find her scores.

H-2

The ages of Jason, Amy and Eric are consecutive whole numbers. Jason is the oldest and Eric is the youngest. If the sum of their ages is 63, how old is Amy?

H - 3

The sum of 2 consecutive negative odd integers is -112. What is the larger integer?

H - 4

The sum of three consecutive even integers is 102. What is the value of the largest consecutive integer?

H - 5

One integer is 4 times another. The sum of the integers is 5. What is the value of the lesser integer?

I - 1

Sylvia earned \$45 a month by washing cars. How many months does she need to wash cars to earn \$1500?

I - 2

Cassette tapes are on sale for \$6 each, including tax. Betty received \$25 for her birthday from her grandparents and decided to buy some tapes. How many tapes can she buy?

I-3

Bonnie and 4 friends go to lunch. The total cost of the lunch is \$30. How much does each person pay if each person pays the same amount?

I - 4

A road worker painting a line down the side of a road paints $53\frac{1}{3}$ feet per minute. How many minutes will it take her to paint 1 mile?

I - 5

A bag of Kool Kat holds 160 oz. of cat food. If each serving is $1\frac{1}{2}$ ozs., how many servings does the bag hold?

I - 6

The distance a nut moves on a bolt in one turn is $\frac{3}{16}$ of an inch. How many turns are needed to make the nut move $2\frac{3}{8}$ inches?

I - 7

Bill and Phil must take in more than \$250 to make a profit on T-shirts they are selling. Each T-shirt sells for \$7.50. How many must they sell to make a profit? (write as an inequality)

I - 8

Hillary spends 3 hour a week at soccer practice. This is one-third the time she spends on her homework. How much time does she spend on her homework?

I - 9

Mike can jog 6.5 miles per hour. At this rate, how many miles will he jog in 30 minutes?

I - 10

Advertisements take up $3\frac{3}{8}$ of the pages in the newspaper. How many pages of advertisements are there if the paper has 15 pages?

I - 11

Tammi babysat for $4\frac{1}{2}$ hours and made \$31.50. How much did she charge per hour?

J-1

Marco traveled 1258 fewer miles than Chris traveled. If they traveled a total of 3,854 miles, how far did each person travel?

J - 2

One season Julius Erving scored 1974 points. This was 213 points more than Larry Bird scored. How many points did Larry Bird score?

J - 3

At one baseball stadium, $\frac{1}{10}$ of the seats are box seats, $\frac{2}{3}$ are general admission seats, and another $\frac{1}{10}$ are bleacher seats. The rest of the seats are premium seats. What part of the total seats are premium?

J - 4

Last year Jonathan was $60\frac{3}{4}$ inches tall. This year he is $65\frac{1}{4}$ tall. How many inches did he grow?

J - 5

The highest point on Mt. Gumas is 1786 ft. The difference between the high point and the low point is 2678 ft. How many feet is the lowest point?

K - 1

There is a balanced scale in front of you. On the one side of the scale are 418 pennies. On the other side of the scale are 34 pennies and 6 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup? Remember that the cups don't weigh anything!

K - 2

There is a balanced scale in front of you. On the one side of the scale are 41 pennies. On the other side of the scale are 2 pennies and 3 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup? Remember that the cups don't weigh anything!

K - 3

There is a balanced scale in front of you. On the one side of the scale are 1020 pennies. On the other side of the scale are 456 pennies and 12 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup? Remember that the cups don't weigh anything!

K - 4

There is a balanced scale in front of you. On the one side of the scale are 98 pennies. On the other side of the scale are 14 pennies and 7 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup? Remember that the cups don't weigh anything!

K - 5

There is a balanced scale in front of you. On the one side of the scale are 228 pennies. On the other side of the scale are 18 pennies and 15 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup? Remember that the cups don't weigh anything!

