Stage homework 13 answers

Answer Key

1. **C**
2. **B**
3. **C**
4. **C**
5. **C**
6. **B**
7. **C**
8. **C**
9. **C**
10. **B**

Model Answers

1.

In the poem, Emily Dickinson describes hope as a bird with feathers that lives within the soul. This bird continuously sings a wordless tune, symbolizing the constant presence of hope in our lives. It never stops singing, even during difficult times. The poet emphasizes the resilience and enduring nature of hope by mentioning that it is heard "sweetest in the gale," meaning that hope is most comforting during life's storms. Despite facing harsh conditions ("the chillest land" and "the strangest sea"), hope remains steadfast and asks nothing in return ("never... it asked a crumb of me"). This portrayal highlights hope's selfless and unwavering support, making it a vital and uplifting force in the human spirit.

2.

(a) The quotation “Hope is the thing with feathers that perches in the soul,” uses a metaphor to compare hope to a bird that rests within us. This imagery suggests that hope is light, delicate, and has the ability to uplift us, much like a bird can soar into the sky. By saying it "perches in the soul," the poet implies that hope is an innate part of us, always present and ready to inspire.

(b) The quotation “And sweetest in the gale is heard;” means that hope's comforting "song" is most delightful and reassuring during difficult times ("the gale" refers to a strong wind or storm). This suggests that when we face challenges or hardships, hope becomes even more important and noticeable, providing us with the strength and encouragement we need to persevere.

Credit: "Hope is the Thing with Feathers" by Emily Dickinson was first published in 1891 and is in the public domain.

Creative Writing Sample Answer:

Last year, I struggled more than I ever had before. I had been chosen to represent my school in a regional debate competition, and at first, I felt confident and excited. But as I started practicing, I realized how challenging it would be. The topic was complex—whether technology was doing more harm than good—and I found it difficult to organize my thoughts and ideas. My initial confidence began to fade as I stumbled through my arguments, feeling lost and unsure of myself.

One evening, I sat down with my coach, Mrs. Evans, and admitted how overwhelmed I felt. She listened patiently and then said something that shifted my perspective completely: “Debating isn’t just about being right; it’s about understanding both sides.” She encouraged me to look at the topic from different angles, including those I personally disagreed with. “Put yourself in the shoes of someone who thinks the opposite,” she said. “Only then will you truly understand your own stance.”

I took her advice and spent hours researching the other side’s arguments. The more I learned, the more I realized there were valid points on both sides. This new approach made me feel more prepared, and on the day of the competition, I was able to speak confidently. My arguments were clearer because I understood them from every angle, not just the one I agreed with.

After the competition, I felt more capable, not just in debating but in tackling other challenges. I realized that sometimes, seeing things differently can turn a struggle into a learning experience. Now, whenever I face a difficult problem, I try to consider all perspectives, which has helped me find solutions I never would have seen otherwise. This

challenge taught me that real growth happens when we're willing to step outside our comfort zone.

MATHS ANSWERS

Answer Key

Question 1 Answer:

If 3/5 of a number is 24, then:

Let the number be x.

3/5 x = 24
=> x = 24 × (5/3) = 40

Answer: 40

Question 2 Answer:

Find a fraction between 0.65 and 0.7:

Convert decimals to fractions:

0.65 = 13/20
0.7 = 7/10
A fraction between 13/20 and 7/10 is 2/3 (approximately 0.6667).

Answer: 2/3

Question 3 Answer:

Calculate 250,000 / (25^2):

First, $25^2 = 625$.

Then divide:
250,000 / 625 = 400

Answer: 400

Question 4 Answer:

How many numbers between 1 and 100 are divisible by both 2 and 5?

Numbers divisible by both 2 and 5 are multiples of 10.

100 / 10 = 10

Answer: 10 numbers

Question 5 Answer:

Three numbers have a mean of 15 and a range of 10. If the smallest number is 10:

Mean of numbers: 15 × 3 = 45
Range = 10, so Largest - Smallest = 10
Middle number: 45 - 10 - 20 = 15
Product: 10 × 15 × 20 = 3000

Answer: 3000

Question 6 Answer:

In a class of 40 students, 28 study French, 18 study Spanish, and 10 study both.

Using inclusion-exclusion:

28 + 18 - 10 = 36

40 - 36 = 4

Answer: 4 students

Question 7 Answer:

If 5 kg of potatoes cost £7.50, how much do 12 kg cost?

Cost per kg: £7.50 / 5 = £1.50
12 × £1.50 = £18

Answer: £18

Question 8 Answer:

A rectangle has an area of 54 cm² with a length-to-width ratio of 3:2.

Let L = 3x and W = 2x.

(3x)(2x) = 54
=> $6x^2 = 54$ => $x^2 = 9$ => x = 3
Length = 9 cm, Width = 6 cm, Perimeter = 2(9 + 6) = 30 cm.

Answer: 30 cm

Question 9 Answer:

Anna has £60. She gives £x to Ben and keeps twice that amount.

x + 2x = 60 => 3x = 60 => x = 20

Answer: £20

Question 10 Answer:

Plot points (2,2), (5,2), (5,6), (2,6):

They form a rectangle.

Answer: Rectangle

Question 11 Answer:

If a number is divisible by 4 it must end in 4,8,2,6 or 0

So if we start with 6 the only number that will maybe be divisible by 4 is 6134 or 6314. Neither of which are divisible by 4

So let's use a number starting with 4.

4316 is divisible by 4. It's the largest number that is in the 4000s, that ends with any of the above listed digits.

Answer: 4316

Question 12 Answer:

Sequence: 3, 7, 13, 21, 31.

Differences: 4, 6, 8, 10.
Next difference: 12, Next number:

31 + 12 = 43

Answer: 43

Question 13 Answer:

A bag has balls in a 2:3:5 ratio. If there are 20 green balls:

Each part = 4 balls.

Total: 10 × 4 = 40

Answer: 40 balls

Question 14 Answer:

Train travels 240 km at 80 km/h:

Time = 240 / 80 = 3 hours

Answer: 3 hours

Question 15 Answer:

Express 5/6 as a sum of unit fractions:

5/6 = 1/2 + 1/3

Answer: 1/2 + 1/3

Question 16 Answer:

Emma reads a 120-page book at 15 pages per day.

120 / 15 = 8 => Monday of the following week

Answer: Monday

Question 17 Answer:

Grid has 25 squares; shaded to unshaded ratio 2:3.

Each part = 5 squares.

Shaded: 2 × 5 = 10

Answer: 10 squares

Question 18 Answer:

Flower ratio of 3:4:5. Minimum:

3 + 4 + 5 = 12

Answer: 12 flowers

Question 19 Answer:

Stamps cost 60p; £12 available.

12 / 0.60 = 20

Answer: 20 stamps

Question 20 Answer:

If 9 × 9 = 81, then:

90 × 9 = 810

Answer: 810

Question 21 Answer:

Answer:

Let:

- B = number of bicycles
- $2B$ = number of motorcycles (since there are twice as many motorcycles as bicycles)
- $2B + 10$ = number of cars (10 more than the number of motorcycles)

The total number of vehicles is 50, so:

$$B + 2B + (2B + 10) = 50$$

Simplify:

$$5B + 10 = 50$$

Subtract 10 from both sides:

$$5B = 40$$

Divide by 5:

$$B = 8$$

Now calculate each type of vehicle:

- Bicycles = $B = 8$
- Motorcycles = $2B = 2 \times 8 = 16$
- Cars = $2B + 10 = 16 + 10 = 26$

Answer: There are 26 cars.

Question 22 Answer:

FACE weight: F = 6, A = 1, C = 3, E = 5.

6 + 1 + 3 + 5 = 15 kg

Answer: 15 kg

Question 23 Answer:

Pie chart: Football 40%, Basketball 25%, others.

100% - 40% - 25% = 35%, 35% × 360° = 126°

Answer: 35% and 126°

Question 24 Answer:

A plant with 500 leaves loses 20% daily.

20% × 500 = 100
500 - 100 = 400

Answer: 400 leaves

Question 25 Answer:

Number machine adds 5, then multiplies by 2.

If output is 24:

(x + 5) × 2 = 24 => x + 5 = 12 => x = 7

Answer: 7

Question 26 Answer:

Company of 60 employees: 1/3 take the bus, 1/2 drive.

Bus: 1/3 × 60 = 20
Drive: 1/2 × 60 = 30
Walk: 60 - 20 - 30 = 10

Answer: 10

Question 27 Answer:

Rope is 14.7 m, round to 15 m. Cut into 3 pieces:

15 / 3 = 5 m

Answer: 5 m each

Question 28 Answer:

L-shape of 8x4 and 4x4 cm rectangles:

Perimeter: 8 + 4 + 4 + 4 + 4 + 8 + 4 = 36 cm
Area: (8 × 4) + (4 × 4) = 32 + 16 = 48 cm^2

Answer: 36 cm, 48 cm^2

Question 29 Answer:

Cylinder with height 12 cm and circumference 10 cm:

Area = Circumference × Height = 10 × 12 = 120 cm^2

Answer: 120 cm^2

Question 30 Answer:

Three pentagons with sides of 5 cm joined:

Perimeter: 3 × 25 - 2 × 5 = 75 - 10 = 65 cm

Answer: 65 cm