ANSWER KEY

QUESTION	CORRECT ANSWER
1	D Given: 2 rocks mass = 266 grams Rock 1 = 37(Rock 2) Solution: Rock 1 + Rock 2 = 266 37(Rock 2) + Rock 2 = 266 38(Rock 2) = 266 Rock 2 = 266 Rock 2 = 7 grams Rock 1 = 266 - 6 **Rock 1 = 259 grams**
2	C Given: Bert = 2 hours Ernie = 3 hours Solution: **Work problem formula** **$(\frac{1}{T})$ = $(\frac{1}{t1})$ + $(\frac{1}{t2})$** **Let T = time taken if both do the work together** **t1 = time taken by 1st person** **t2 time taken by 2nd person** $\frac{1}{T} = \frac{1}{2} + \frac{1}{3}$ $\frac{1}{T} = \frac{5}{6}$ 5T = 6 T = $\frac{6}{5}$ **T = 1 ⅕ hours**

3	C Given: Ed is older than Edd Eddy is older than Ed Solution: Edd = Youngest Ed = Middle Eddy = Oldest Therefore the answer is **Eddy**
4	A Given: 15 page = $36.9 4.5 service charge Solution: Let X = price per page 36.9 = 4.5 + 15(X) 32.4 = 15X **X = $2.16**
5	C Given: Maris = $\frac{4}{7}$ of the business Sell half of her share Solution: Shares after selling = $\frac{4}{7}$ - $\frac{4}{7}(\frac{1}{2})$ Shares after selling = $\frac{4}{7}$ - $\frac{2}{7}$ **Shares after selling =** $\frac{2}{7}$

6	B Given: Carl = 120 cm or 1.2 m Carl shadow = 1 meter Benny = 100 cm or 1 m Solution: $\frac{Carl}{Carl\ shadow} = \frac{1.2}{1}$ $\frac{1.2}{1} = \frac{1}{Benny\ shadow}$ 1.2 Benny shadow = 1 Benny shadow = $\frac{1}{1.2}$ **Benny shadow = $\frac{5}{6}$**
7	A Given: Anna = 8 Elsa Anna = 56 Solution: Elsa = $\frac{Anna}{8}$ Elsa = $\frac{56}{8}$ Elsa = 7 Total = 7 + 56 **Total = 63 flowers**
8	D Given: 50 bags = 1 500 golds Sold 20 bags for 54 golds each Sold the remaining for 60 golds each Solution: Revenue = 20(54) + 30(60) Revenue = 2880 golds Profit = 2880 - 1500 **Profit = 1380 golds**

9	A Given: Scooby = 10 km per hour Shaggy = 7 times faster Solution: Shaggy = 10 x 7 Shaggy = 70 km per hour Time = $\frac{140}{70}$ **Time = 2 hours**
10	D Given: Faster = 5 minutes after completing ⅓ the faster machine stopped Slower = $\frac{1}{10}$ the rate of the faster Solution: Slower = $\frac{5}{\frac{1}{10}}$ ← Note Slower must have longer time to complete the order Slower = 10(5) Slower = 50 minutes Work needed = 1 - ⅓ = ⅔ work Time = 50(⅔) **Time =** $\frac{100}{3}$
11	B Given: Elmo = 75 baseball cards Trade 5 cards in exchange for 2 cards in each of the first 5 trades then traded 6 cards in exchange for 2 cards for the next 3 trades Solution: Cards now = 75 - 5(5) + 2(5) - 6(3) + 2(3) **Cards now = 48**

12	E Given: Blender = $157.5 ← discounted = $67.5 Solution: Let T = Regular price T - 67.5 = 157.5 T = 225 Percentage = $\frac{67.5}{225}$ x 100 **Percentage = 30%**
13	C Given: Five more than half of a number is 11 Solution: 5 + ½ X = 11 ½ X = 6 **X = 12**
14	A Given: Yesterday = 24 km Afternoon = 2(Morning) Solution: Morning + Afternoon = 24 Morning + 2 Morning = 24 3 Morning = 24 **Morning = 8 km**

15	C Given: L = 3 W Perimeter = 32 Solution: Perimeter = 2(L + W) Perimeter = 2(3W + W) 32 = 8W W = 4 L = 3W L = 4(3) **L = 12 meters**
16	E Given: 5 packs = $1.4 15 packs = ? Solution: 15 packs = 15(1.4) **15 packs = $21**
17	A Given: 36 goats Brown = White + 12 Solution: White + Brown = 36 White + White + 12 = 36 2 White = 24 White = 12 Brown = 12 + 12 **Brown = 24 brown goats**
18	D Given: 97,89,89,87,88 Solution: Average = $\frac{97 + 89 + 89 + 87 + 88}{5}$ **Average = 90**

19	D Given: 100 badges 24 students Solution: Number of badges per student = $\frac{100}{24}$ Number of badges per student = 4.167 ← round down **Number of badges per student = 4 badges**
20	B Given: Scott = 46 years old Solution: Let D = Daughter's age 3(D) + 4 = 46 3D = 42 **D = 14 years old**
21	D Given: Huey = ⅓ Dewey Louie = Dewey + 6 Sum = 55 Solution: Huey + Dewey + Louie = 55 ⅓ Dewey + Dewey + Dewey + 6 = 55 2 ⅓ Dewey = 49 Dewey = 21 years old Huey = ⅓(21) = 7 years old **Louie = 21 + 6 = 27 years old ← oldest**

22	C Given: Difference = 70 Bigger = 6 (Smaller) Solution: Bigger - Smaller = 70 6(Smaller) - Smaller = 70 5 smaller = 70 Smaller = 14 Bigger = 6(14) **Bigger = 84**
23	A Given: Last season = 4 392 apples Kept = 144 Boxed the remaining into 36 boxes Solution: Number of apples to be boxed = 4392 - 144 Number of apples to be boxed = 4248 apples Number of apple per box = $\frac{4248}{36}$ **Number of apple per box = 118 apples**
24	D Given: 1.36 meters Cuts into 2 pieces with a ratio 2:3 Solution: Total ratio = 2 + 3 Total ratio = 5 $\frac{Longer}{Total} = \frac{3}{5}$ $\frac{Longer}{1.36} = \frac{3}{5}$ 5 Longer = 4.08 Longer = 0.816 meters or **81.6 centimeter**

25	A Given: Alvin = Simon + 8 Theodore = Simon - 2 Sum = 60 Solution: Alvin + Simon + Theodore = 60 Simon + 8 + Simon + Simon - 2 = 60 3 Simon = 54 Simon = 18 years old Alvin = 18 + 8 = 26 years old Theodore = 18 -2 = **16 years old**
26	B Given: 40 meters and 52 meters Solution: Get the GCf of 40 and 52 40 52 / \ / \ 4 10 4 13 GCF = 4 meters Therefore the answer is **4 meters**
27	E Given: Jack :Ryan = 3:4 Ryan = Jack + 5 Solution: $\frac{3}{4} = \frac{Jack}{Jack + 5}$ 4 Jack = 3 Jack + 15 Jack = 15 Ryan = Jack + 5 Ryan = 15 + 5 **Ryan = 20 years old**

28	D Given: 400 meters 3 km per hour 1.25 km long bridge Solution: 400 meters x $\frac{1\ km}{1000\ m}$ = 0.4 km Total distance until crossing = 1.25 + 0.4 Total distance until crossing = 1.65 km Time = $\frac{1.65}{3}$ Time = 0.55 hour 0.55 hour x $\frac{60\ minutes}{1\ hour}$ = **33 minutes**
29	A Given: Vagosphere day = - 332° Celsius Vagosphere day = - 533° Celsius Solution: Difference = - 332 - - 533 **Difference = 201° Celsius**
30	C Given: 30 apples 50 orange 16 melons 24 apricots Solution: Total = 30 + 50 + 16 + 24 Total = 120 Fraction = $\frac{30}{12}$ **Fraction =** $\frac{1}{4}$

31	D Given: 400 marbles Red = 312 Blue = Rest Solution: Red = 312 Percent = $\frac{312}{400}$ x 100 **Percent = 78%**
32	C Given: 326 slices of brownies Packed into box with 4 slices each Solution: $\frac{326}{4}$ = 81 remainder 2 Therefore there are **2 slices left unpacked**
33	B Given: 700 marbles Gave = 175 marbles Packed the remaining into 5 boxes Solution: Number of marbles per box = $\frac{700-175}{5}$ **Number of marbles per box = 105 marbles**

34	A Given: 364 muffins then packed into boxes 1 box = 8 muffins $5 per box Solution: Number of boxes = $\frac{364}{8}$ Number of boxes = 45.5 boxes ← can only sell 45 boxes Cost = 45(5) **Cost = $225**
35	C Given: $\frac{2}{9}$ of students = Boys ← Boys = $\frac{2}{9}$ Total Girls = Boys + 95 Solution: Girls + Boys = Total ← Substitute Girls = Boys + 95 (Boys + 95) + Boys = Total ($\frac{2}{9}$Total) + 95 + ($\frac{2}{9}$Total) = Total ← Substitute Boys = $\frac{2}{9}$ Total $\frac{4}{9}$ Total + 95 = Total Total - $\frac{4}{9}$ Total = 95 $\frac{5}{9}$Total = 95 5 Total = 855 Total = 171 Students Girls = Boys + 95 Girls = $\frac{2}{9}$ Total + 95 ← Boys = $\frac{2}{9}$ Total Girls = $\frac{2}{9}$(171) + 95 Girls = 38 + 95 **Girls = 133 girls**