**Name: Mohamed Ali Yasiin**

**ID: 792**

**Faculty: Social Work**

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**Assignment**

**1**.Simplify 12:16  
1216=34⇒Simplest form is 3:41612​=43​⇒Simplest form is 3:4​

**2**.Divide $120 in the ratio 2:3  
Total parts = 2 + 3 = 5

* First part: 25×120=4852​×120=48
* Second part: 35×120=7253​×120=72  
  48 and 7248 and 72​

**3**.Cats to Dogs = 4:7, Dogs = 28  
Let cats be xx, then  
x28=47⇒x=47×28=1628x​=74​⇒x=74​×28=16  
16 cats16 cats​

**4**.Rate of pay per hour  
2408=$30 per hour8240​=$30 per hour​

**5**.Are 6:9 and 8:12 proportional?  
69=23,812=23⇒Yes96​=32​,128​=32​⇒Yes​

**6**.3 shirts = $45, cost of 5 shirts?  
Cost per shirt=453=15⇒5×15=$75Cost per shirt=345​=15⇒5×15=$75​

**7**.5 pens = $10, 12 pens = ?  
Cost per pen=105=2⇒12×2=$24Cost per pen=510​=2⇒12×2=$24​

**8**.18 boys, 12 girls → Total = 30  
Ratio of boys to total=1830=35⇒3:5Ratio of boys to total=3018​=53​⇒3:5​

**9**.25% of 480  
25100×480=12010025​×480=120​

**10**.$150 after 20% discount → Find original price  
Let original price be xx:  
x−0.2x=150⇒0.8x=150⇒x=1500.8=187.50x−0.2x=150⇒0.8x=150⇒x=0.8150​=187.50​

**11**.5% commission on $2,000  
5100×2000=1001005​×2000=100​

**12**.60% of a number = 180  
Let the number be xx:  
0.6x=180⇒x=1800.6=3000.6x=180⇒x=0.6180​=300​

13.Simple interest = ?  
SI=P×R×T100=1200×5×3100=180SI=100P×R×T​=1001200×5×3​=180​

**14**.Compound interest: $2,000 at 10% for 3 years  
A=P(1+r100)t=2000(1+0.10)3=2000×1.331=2662A=P(1+100r​)t=2000(1+0.10)3=2000×1.331=2662​

**15**.Simple interest total repayment: $2,000 at 6% for 2 years  
SI=2000×6×2100=240⇒Total=2000+240=2240SI=1002000×6×2​=240⇒Total=2000+240=2240​