Q.1 Let the principal be P and the rate of interest be $R\%$ per annum.

Amount after 3 years:

$$A_1 = P + \frac{P \times R \times 3}{100} = 5400$$

Amount after 5 years:

$$A_2 = P + \frac{P \times R \times 5}{100} = 6000$$

Subtract the first equation from the second:

$$\frac{P \times R \times 2}{100} = 600 \implies \frac{2PR}{100} = 600 \implies PR = 30000$$

Substitute $PR = 30000$ in the first equation:

$$P + \frac{3 \times 30000}{100} = 5400 \implies P + 900 = 5400 \implies P = 4500$$

Now, solve for R:

$$4500 \times R = 30000 \implies R = \frac{30000}{4500} = 6\frac{2}{3}\%$$

Thus, the rate percent per annum is $\boxed{6\frac{2}{3}\%}$.

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Q.2 Given:

$$P = 8400, \quad R = 8\frac{1}{3}\% = \frac{25}{3}\%, \quad T = 9 \text{ months} = \frac{9}{12} = \frac{3}{4} \text{ years}$$

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$SI = \frac{8400 \times \frac{25}{3} \times \frac{3}{4}}{100} = \frac{8400 \times 25 \times 3}{3 \times 4 \times 100} = \frac{8400 \times 25}{400} = 525$$

Thus, the Simple Interest is $\boxed{\text{Rs. } 525}$.

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Q.3 Let the principal be P.

After 5 years:
$$P_1 = P + \frac{10}{100}P = 1.1P$$

After 10 years:
$$P_2 = 1.1P + \frac{10}{100}(1.1P) = 1.21P$$

After 15 years:
$$P_3 = 1.21P + \frac{10}{100}(1.21P) = 1.331P$$

After 20 years:
$$P_4 = 1.331P + \frac{10}{100}(1.331P) = 1.4641P$$

After 25 years:
$$P_5 = 1.4641P + \frac{10}{100}(1.4641P) = 1.61051P$$

The principal increases by 61.051

Thus, the principal will increase by 60

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Q.4 Let the principal be P. The amount after 16 years is $3P$.

Simple Interest (SI) = Amount - Principal = $3P - P = 2P$.

The formula for Simple Interest is:
$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:
$$2P = \frac{P \times R \times 16}{100} \implies 2 = \frac{R \times 16}{100} \implies R = \frac{200}{16} = 12.5\%$$

Thus, the rate percent per annum is $\boxed{12.5\%}$.

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Q.5 Let the principal be P.

Simple Interest for 8 months at 4
$$SI_1 = \frac{P \times 4 \times \frac{8}{12}}{100} = \frac{P \times 4 \times \frac{2}{3}}{100} = \frac{8P}{300} = \frac{2P}{75}$$

Simple Interest for 15 months at 5
$$SI_2 = \frac{P \times 5 \times \frac{15}{12}}{100} = \frac{P \times 5 \times \frac{5}{4}}{100} = \frac{25P}{400} = \frac{P}{16}$$

Given:
$$SI_2 - SI_1 = 129 \implies \frac{P}{16} - \frac{2P}{75} = 129$$

Solve for P:
$$\frac{75P - 32P}{1200} = 129 \implies \frac{43P}{1200} = 129 \implies P = \frac{129 \times 1200}{43} = 3600$$

Thus, the sum is $\boxed{\text{Rs. } 3,600}$.

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Q.6 Let the time be T years.

Total interest:
$$\frac{8000 \times 12 \times T}{100} + \frac{10000 \times 10 \times T}{100} = 5880$$

Simplify:
$$960T + 1000T = 5880 \implies 1960T = 5880 \implies T = 3 \text{ years}$$

Thus, the time period is $\boxed{3 \text{ years}}$.

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Q.7 Let the principal be $4x$ and the amount be $5x$.

Simple Interest (SI) = Amount - Principal = $5x - 4x = x$.

The formula for Simple Interest is:
$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:
$$x = \frac{4x \times R \times 2}{100} \implies x = \frac{8xR}{100} \implies R = \frac{100}{8} = 12.5\%$$

Thus, the rate of interest per annum is $\boxed{12.5\%}$.

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Q.8 Simple Interest on Rs.2,400 for 5 years at 5
$$SI = \frac{2400 \times 5 \times 5}{100} = 600$$

Let the time be T years for Rs.3,300 at 4
$$600 = \frac{3300 \times 4 \times T}{100} \implies 600 = 132T \implies T = \frac{600}{132} = \frac{50}{11} = 4\frac{6}{11} \text{ years}$$

Thus, the time required is $\boxed{4\frac{6}{11} \text{ years}}$.

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Q.9 Let the principal be P. The amount after 3 years is $\frac{7}{6}P$.

Simple Interest (SI) = Amount - Principal = $\frac{7}{6}P - P = \frac{P}{6}$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$\frac{P}{6} = \frac{P \times R \times 3}{100} \implies \frac{1}{6} = \frac{3R}{100} \implies R = \frac{100}{18} = 5\frac{5}{9}\%$$

Thus, the rate of interest is $\boxed{5\frac{5}{9}\%}$.

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Q.10 Let the rate be $R\%$.

Difference in interest:

$$\frac{12000 \times R \times 4}{100} - \frac{10000 \times R \times 3}{100} = 540$$

Simplify:

$$480R - 300R = 540 \implies 180R = 540 \implies R = 3\%$$

Thus, the rate is $\boxed{3\%}$.

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Q.11 Let the principal be P, the rate be $R\%$, and the time be $T = R$ years.

Given:

$$SI = \frac{25}{36}P$$

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute $T = R$:

$$\frac{25}{36}P = \frac{P \times R \times R}{100} \implies \frac{25}{36} = \frac{R^2}{100} \implies R^2 = \frac{2500}{36} \implies R = \frac{50}{6} = 8\frac{1}{3}\%$$

Thus, the rate is $\boxed{8\frac{1}{3}\%}$.

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Q.12 Let the rate be $R\%$.

Simple Interest:

$$SI = 720 - 600 = 120$$

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$120 = \frac{600 \times R \times 4}{100} \implies 120 = 24R \implies R = 5\%$$

New rate $= 5\% + 2\% = 7\%$.

New Simple Interest:

$$SI_{\text{new}} = \frac{600 \times 7 \times 4}{100} = 168$$

New Amount:

$$A_{\text{new}} = 600 + 168 = 768$$

Thus, the new amount is $\boxed{\text{Rs. } 768}$.

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Q.13 Let the principal be P. The amount after 15 years is $3P$.

Simple Interest (SI) = Amount - Principal $= 3P - P = 2P$.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$2P = \frac{P \times R \times 15}{100} \implies 2 = \frac{R \times 15}{100} \implies R = \frac{200}{15} = 13\frac{1}{3}\%$$

Thus, the rate of interest is $\boxed{13\frac{1}{3}\%}$.

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Q.14 Time from 1st January to 14th March $= 73$ days $= \frac{73}{365}$ years.

The formula for Simple Interest is:

$$SI = \frac{P \times R \times T}{100}$$

Substitute the values:

$$SI = \frac{1825 \times 10 \times \frac{73}{365}}{100} = \frac{1825 \times 10 \times 73}{365 \times 100} = \frac{1825 \times 730}{36500} = \frac{1825 \times 2}{100} = 36.50$$

Thus, the interest earned is $\boxed{\text{Rs. } 36.50}$.

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Q.15 Let the two parts be x and $4000 - x$.

Interest on the first part:

$$I_1 = \frac{x \times 15 \times 2}{100} = \frac{30x}{100} = \frac{3x}{10}$$

Interest on the second part:

$$I_2 = \frac{(4000 - x) \times 10 \times 3}{100} = \frac{30(4000 - x)}{100} = \frac{3(4000 - x)}{10}$$

Set $I_1 = I_2$:

$$\frac{3x}{10} = \frac{3(4000 - x)}{10} \implies 3x = 12000 - 3x \implies 6x = 12000 \implies x = 2000$$

Thus, the two parts are $\boxed{\text{Rs. } 2,000}$ and $\boxed{\text{Rs. } 2,000}$.