Find the percent change. Label as increase or decrease. SHOW ALL WORK!!!

1) Original: 34 New: 52	2) Original: 97 New: 78	3) Original: 134 New: 187

1)
$$\frac{52-34}{34} = \frac{x}{100}$$
$$\frac{18}{34} = \frac{x}{100}$$
$$\frac{1800}{34} = \frac{34x}{34}$$
$$52.9\% = x \quad \text{increase}$$

2)
$$\frac{97-78}{97} = \frac{x}{100}$$
$$\frac{19}{97} = \frac{x}{100}$$
$$\frac{97x}{97} = \frac{1900}{97}$$
$$x = 19.6\% \quad \text{Decrease}$$

3)
$$\frac{187-134}{134} = \frac{x}{100}$$
$$\frac{53}{134} = \frac{x}{100}$$
$$\frac{134x}{134} = \frac{5300}{134}$$
$$x = 39.6\% \quad \text{inc}$$

Find the percent change. Label as increase or decrease. SHOW ALL WORK!!!

4) Mr. Kelly bought the car of his dreams! He purchased a brand new Tesla for $85,000! However, cars depreciate in value as soon as they are driven off the lot. When he gets home and realizes that he no longer wants the car he can only sell it for $72,000. Describe the percent change in value of his Tesla.

$$\frac{85000-72000}{85000} = \frac{x}{100}$$
$$\frac{13000}{85000} = \frac{x}{100}$$
$$\frac{1300000}{85,000} = \frac{85,000x}{85,000}$$
$$x = 15.3\% \text{ Dec}$$

5) Jumbo jets can currently carry about 600 people on Transatlantic flights. It is predicted that by 2040 planes will be able to carry up to 1400 people on flights. Describe the percent change in the number of passengers on a flight.

$$\frac{1400-600}{600} = \frac{x}{100}$$
$$\frac{800}{600} = \frac{x}{100}$$
$$\frac{80,000}{600} = \frac{600x}{600}$$
$$x = 133.3\% \text{ inc}$$

6a) Mr. Sullivan weighed 210 pounds before the start of the pandemic. By the end of the pandemic he weighed 235 pounds. Describe the percent change in his weight during the pandemic.

$$\frac{235-210}{210} = \frac{x}{100}$$
$$\frac{25}{210} = \frac{x}{100}$$
$$\frac{210x}{210} = \frac{2500}{210}$$
$$x = 11.9\% \text{ inc}$$

6b) After six months of working out Mr. Sullivan went from his 235 pounds back to his pre-pandemic weight of 210 pounds. Describe the percent change in his weight.

$$\frac{235-210}{235} = \frac{x}{100}$$
$$\frac{235x}{235} = \frac{2500}{235}$$
$$x = 10.6\% \text{ decrease}$$

7a) Amazon normally sells the new Apple Airpod Pro Plus Limited Edition Earpods for $400. However, they are on sale for $250. Describe the percent change in price.

$$\frac{400 - 250}{400} = \frac{x}{100}$$

$$\frac{150}{400} = \frac{x}{100}$$

$$\frac{400x}{400} = \frac{15000}{400}$$

$$x = 37.5\% \ Dec$$

7b) Mr. Kelly bought a pair of the Earpods at the sale price of $250. He sold them to Mr. Brust for $400. Describe the percent change in price that Mr. Kelly sold the Earpods for.

$$\frac{400 - 250}{250} = \frac{x}{100}$$

$$\frac{150}{250} = \frac{x}{100}$$

$$\frac{250x}{250} = \frac{15000}{250}$$

$$x = 60\% \ increase$$

8) Last season the Ohio State women's basketball team won 13 games. This year they won 25! Describe the precent change in wins for the Ohio State women's basketball team.

$$\frac{25 - 13}{13} = \frac{x}{100}$$

$$\frac{12}{13} = \frac{x}{100}$$

$$\frac{13x}{13} = \frac{1200}{13}$$

$$x = 92.3\% \ inc$$