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א. נגזר:  $\frac{d}{dt} \sin t = \cos t$

ב.  $\frac{d}{dt} \cos t = -\sin t$

ג.  $\frac{d}{dt} e^t = e^t$

ד.  $\frac{d}{dt} a^t = a^t \ln a$

$$P_1 = \begin{pmatrix} 2 & 3 & 4 \\ 0 & 4 & 5 \\ 0 & 0 & 6 \end{pmatrix}$$

ה.  $\frac{d}{dt} \ln t = \frac{1}{t}$

ו.  $\frac{d}{dt} \arctan t = \frac{1}{1+t^2}$

$$\text{adj}(A+B) = \text{adj}(A) + \text{adj}(B)$$

ז.  $\frac{d}{dt} \arcsin t = \frac{1}{\sqrt{1-t^2}}$

ח.  $\frac{d}{dt} \arccos t = -\frac{1}{\sqrt{1-t^2}}$

ט.  $\frac{d}{dt} \arctan t = \frac{1}{1+t^2}$

י.  $\frac{d}{dt} \operatorname{arccot} t = -\frac{1}{1+t^2}$

יא.  $\frac{d}{dt} \operatorname{arccsc} t = \frac{1}{t\sqrt{1-t^2}}$

יב.  $\frac{d}{dt} \operatorname{arcsec} t = \frac{1}{t\sqrt{t^2-1}}$

יג.  $\frac{d}{dt} \operatorname{arcsinh} t = \frac{1}{\sqrt{1+t^2}}$

יד.  $\frac{d}{dt} \operatorname{arcosh} t = \frac{1}{t\sqrt{t^2-1}}$

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א.  $\frac{d}{dt} \ln t = \frac{1}{t}$

ב.  $\frac{d}{dt} \ln |x| = \frac{1}{x}$

ג.  $\frac{d}{dt} \ln |y| = \frac{1}{y}$

ד.  $\frac{d}{dt} \ln |z| = \frac{1}{z}$

$$P_2 = \begin{pmatrix} 2 & 1 & 1 \\ 3 & 4 & 3 \\ 5 & 5 & 6 \end{pmatrix}$$

ה.  $\frac{d}{dt} \ln |w| = \frac{1}{w}$

ו.  $\frac{d}{dt} \ln |v| = \frac{1}{v}$

ז.  $\frac{d}{dt} \ln |u| = \frac{1}{u}$

$$A = \begin{pmatrix} 1 & 1 & \dots & 1 \\ 2 & 2 & \dots & 2 \\ \dots & \dots & \dots & \dots \\ n & n & \dots & n \end{pmatrix} \in \mathbb{R}^{n \times n}$$

ח.  $\frac{d}{dt} \ln |s| = \frac{1}{s}$

ט.  $\frac{d}{dt} \ln |r| = \frac{1}{r}$

י.  $\frac{d}{dt} \ln |k| = \frac{1}{k}$

יא.  $\frac{d}{dt} \ln |v| = \frac{1}{v}$

יב.  $\frac{d}{dt} \ln |w| = \frac{1}{w}$

יג.  $\frac{d}{dt} \ln |u| = \frac{1}{u}$

יד.  $\frac{d}{dt} \ln |s| = \frac{1}{s}$