Obliczyć całki nieoznaczone:

1. **[0,6 pkt]**
$$\int \frac{\sin(2x)}{\sqrt{7+9\sin^2(x)}}\ \mathrm{d}x\,,$$
2. **[0,6 pkt]**
$$\int \frac{x^5+7x-3}{(1+x^2)(x-4)}\ \mathrm{d}x\,,$$
3. **[0,6 pkt]**
$$\int (3x^2+5x-2)\sqrt{x^2+4x-1}\ \mathrm{d}x\,,$$
4. **[0,6 pkt]**
$$\int \frac{\mathrm{d}x}{\sin(3x)\cos(x)}\,,$$
5. **[0,6 pkt]**
$$\int \frac{2x+3}{(4x^2+20x+40)^3}\ \mathrm{d}x\,.$$

Wskazówki:

$$(\operatorname{arc}\sin x)' = \frac{1}{\sqrt{1-x^2}}\,, \qquad (\operatorname{arc}\cos x)' = \frac{-1}{\sqrt{1-x^2}}\,,$$
$$(\operatorname{ar}\sinh x)' = \frac{1}{\sqrt{1+x^2}}\,, \qquad (\operatorname{ar}\cosh x)' = \frac{1}{\sqrt{x^2-1}}\,,$$
$$\sin^2(x)+\cos^2(x) = 1\,, \qquad \cosh^2(x)-\sinh^2(x) = 1\,,$$
$$\sin(\operatorname{arc}\cos x) = \sqrt{1-x^2}\,, \qquad \cos(\operatorname{arc}\sin x) = \sqrt{1-x^2}\,.$$