EJERCICIOS DE DERIVACIÓN MEDIANTE TABLAS

452. $y = \ln(e^x + 5\operatorname{sen} x - 4\operatorname{arcsen} x)$.

453. $y = \operatorname{arctg}(\ln x) + \ln(\operatorname{arctg} x)$.

454. $y = \sqrt{\ln x + 1} + \ln(\sqrt{x} + 1)$.

E. Funciones diversas

455**. $y = \operatorname{sen}^3 5x \cos^2 \frac{x}{3}$.

456. $y = -\frac{11}{2(x-2)^2} - \frac{4}{x-2}$.

457. $y = -\frac{15}{4(x-3)^4} - \frac{10}{3(x-3)^3} - \frac{1}{2(x-3)^2}$.

458. $y = \frac{x^8}{8(1-x^2)^4}$.

459. $y = \frac{\sqrt{2x^2-2x+1}}{x}$.

460. $y = \frac{x}{a^2\sqrt{a^2+x^2}}$.

461. $y = \frac{x^3}{3\sqrt{(1+x^2)^3}}$.

462. $y = \frac{3}{2}\sqrt[3]{x^2} + \frac{18}{7}x\sqrt[6]{x} + \frac{9}{5}x\sqrt[3]{x^2} + \frac{6}{13}x^2\sqrt[6]{x}$.

463. $y = \frac{1}{8}\sqrt[3]{(1+x^3)^8} - \frac{1}{5}\sqrt[3]{(1+x^3)^5}$.

464. $y = \frac{4}{3}\sqrt[4]{\frac{x-1}{x+2}}$.

465. $y = x^4(a-2x^3)^2$.

466. $y = \left(\frac{a+bx^n}{a-bx^n}\right)^m$.

467. $y = \frac{9}{5(x+2)^5} - \frac{3}{(x+2)^4} + \frac{2}{(x+2)^3} - \frac{1}{2(x+2)^2}$.

468. $y = (a+x)\sqrt{a-x}$.

469. $y = \sqrt{(x+a)(x+b)(x+c)}$.

470. $z = \sqrt[3]{y+\sqrt{y}}$.

471. $f(t) = (2t+1)(3t+2)\sqrt[3]{3t+2}$.

472. $x = \frac{1}{\sqrt{2ay-y^2}}$.

473. $y = \ln(\sqrt{1+e^x}-1) - \ln(\sqrt{1+e^x}+1)$.

474. $y = \frac{1}{15}\cos^3 x(3\cos^2 x - 5)$.

475. $y = \frac{(\operatorname{tg}^2 x - 1)(\operatorname{tg}^4 x + 10\operatorname{tg}^2 x + 1)}{3\operatorname{tg}^3 x}$.

476. $y = \operatorname{tg}^2 5x$.

477. $y = \frac{1}{2}\operatorname{sen}(x^2)$.

478. $y = \operatorname{sen}^2(t^3)$.

479. $y = 3\operatorname{sen} x\cos^2 x + \operatorname{sen}^3 x$.

480. $y = \frac{1}{3}\operatorname{tg}^3 x - \operatorname{tg} x + x$.

481. $y = -\frac{\cos x}{3\operatorname{sen}^3 x} + \frac{4}{3}\operatorname{ctg} x$.

482. $y = \sqrt{\alpha\operatorname{sen}^2 x + \beta\cos^2 x}$.

483. $y = \operatorname{arcsen} x^2 + \operatorname{arccos} x^2$.

484. $y = \frac{1}{2}(\operatorname{arcsen} x)^2 \operatorname{arccos} x$.

485. $y = \operatorname{arcsen}\frac{x^2-1}{x^2}$.

486. $y = \operatorname{arcsen}\frac{x}{\sqrt{1+x^2}}$.

487. $y = \frac{\operatorname{arccos} x}{\sqrt{1-x^2}}$.

488. $y = \frac{1}{\sqrt{b}}\operatorname{arcsen}\left(x\sqrt{\frac{b}{a}}\right)$.

489. $y = \sqrt{a^2-x^2} + a\operatorname{arcsen}\frac{x}{a}$.

490. $y = x\sqrt{a^2-x^2} + a^2\operatorname{arcsen}\frac{x}{a}$.

491. $y = \operatorname{arcsen}(1-x) + \sqrt{2x-x^2}$.

492. $y = \left(x - \frac{1}{2}\right)\operatorname{arcsen}\sqrt{x} + \frac{1}{2}\sqrt{x-x^2}$.

493. $y = \ln(\operatorname{arcsen} 5x)$.

494. $y = \operatorname{arcsen}(\ln x)$.

495. $y = \operatorname{arctg}\frac{x\operatorname{sen}\alpha}{1 - x\cos\alpha}$.

496. $y = \frac{2}{3}\operatorname{arctg}\frac{5\operatorname{tg}\frac{x}{2}+4}{3}$.

497. $y = 3b^2\operatorname{arctg}\sqrt{\frac{x}{b-x}} - (3b+2x)\sqrt{bx-x^2}$.

498. $y = -\sqrt{2}\operatorname{arcctg}\frac{\operatorname{tg} x}{\sqrt{2}} - x$.

499. $y = \sqrt{e^{ax}}$.

500. $y = e^{\operatorname{sen}^2 x}$.

501. $F(x) = (2ma^{nx} + b)^p$.

502. $F(t) = e^{\alpha t}\cos\beta t$.

503. $y = \frac{(\alpha\operatorname{sen}\beta x - \beta\cos\beta x)e^{\alpha x}}{\alpha^2+\beta^2}$.

504. $y = \frac{1}{10}e^{-x}(3\operatorname{sen} 3x - \cos 3x)$.

505. $y = x^n a^{-x^2}$.

506. $y = \sqrt{\cos x}\, a^{\sqrt{\cos x}}$.

507. $y = 3^{\operatorname{ctg}\frac{1}{x}}$.

508. $y = \ln(ax^2 + bx + c)$.

509. $y = \ln(x + \sqrt{a^2+x^2})$.

510. $y = x - 2\sqrt{x} + 2\ln(1+\sqrt{x})$.

511. $y = \ln(a + x + \sqrt{2ax+x^2})$.

512. $y = \frac{1}{\ln^2 x}$.

513. $y = \ln\cos\frac{x-1}{x}$.

514*. $y = \ln\frac{(x-2)^5}{(x+1)^3}$.

515. $y = \ln\frac{(x-1)^3(x-2)}{x-3}$.

516. $y = -\frac{1}{2\operatorname{sen}^2 x} + \ln\operatorname{tg} x$.

517. $y = \frac{x}{2}\sqrt{x^2-a^2} - \frac{a^2}{2}\ln(x + \sqrt{x^2-a^2})$.

518. $y = \ln\ln(3-2x^3)$.

519. $y = 5\ln^3(ax+b)$.

520. $y = \ln\frac{\sqrt{x^2+a^2}+x}{\sqrt{x^2+a^2}-x}$.

521. $y = \frac{m}{2}\ln(x^2-a^2) + \frac{n}{2a}\ln\frac{x-a}{x+a}$.

522. $y = x\cdot\operatorname{sen}\left(\ln x - \frac{\pi}{4}\right)$.

523. $y = \frac{1}{2}\ln\operatorname{tg}\frac{x}{2} - \frac{1}{2}\frac{\cos x}{\operatorname{sen}^2 x}$.

529. $y = \operatorname{arctg}\ln x$.

530. $y = \ln\operatorname{arcsen} x + \frac{1}{2}\ln^2 x + \operatorname{arcsen}\ln x$.

531. $y = \operatorname{arctg}\ln\frac{1}{x}$