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$$1a) \underline{2x^2} // 1b) \underline{a + \frac{y}{2}} // 2a) (4^3 \cdot 4^2)^5 = (4^5)^5 = \underline{4^{25}}$$

$$2b) \left[(-5)^3 : (-5)^2 \right]^2 = \left((-1^3 \cdot 5^3) : (-1^2 \cdot 5^2) \right)^2 = \\ = \left(\frac{-1^3 \cdot 5^3}{-1^2 \cdot 5^2} \right)^2 = (-1 \cdot 5)^2 = -1^2 \cdot 5^2 = 1 \cdot 5^2 = \underline{5^2}$$

$$2c) (9^7 : 9^5)^2 = (9^2)^2 = \underline{9^4}$$

$$2d) (4^3 : 4^2)^3 = (4^1)^3 = \underline{4^3}$$

$$2e) \left[(4^2)^4 \cdot (4^2)^5 \right]^4 = \left[(4^2)^9 \right]^4 = 4^2 \cdot 36$$

$$2f) (7^{11} : 7^5)^2 = (7^6)^2 = 7^{12} // 2g) (3^2 \cdot 9^4)^2 = (3^2 \cdot (3^2)^4)^2 = \\ = (3^2 \cdot 3^8)^2 = (3^{10})^2 = \underline{3^{20}}$$

$$2h) \left[(-3)^5 \cdot 4^5 \right]^2 = (-12^5)^2 = (-12)^{10}$$

$$3a) 7 \cdot (4+2) = 7 \cdot 4 + 7 \cdot 2 = 28 + 14 = \underline{42}$$

$$3b) 3 \cdot (x-5) = 3x - 3 \cdot 5 = 3x - 15$$

$$3c) 9x \cdot (x-4) = 9x^2 - 36x$$

$$3d) (-2x) \cdot (3x^2 - 4x + 7) = -6x^3 + 8x^2 - 14x$$

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$$5a) 6x^2 + 2x^2 - x^2 + 3x^2 - x^2 = \underline{\underline{9x^2}}$$

$$5b) 3x^2y^2 - 2x^2y^2 + 6x^2y^2 - x^2y^2 = \underline{\underline{6x^2y^2}}$$

$$5c) (-5ab) \cdot (6abc) = \underline{\underline{-30a^2b^2c}}$$

$$5d) (-8x^2y) \cdot (-4xy^2) = \underline{\underline{32x^3y^3}}$$

$$5e) (15xy) : (-3x) = \underline{\underline{-5y}}$$

$$5f) (2xy^2) : (-2xy) = \underline{\underline{-z}}$$

$$6a) -2x^3 - x^2 + 5x^2 - 6x + x - 2x^2 - 6x = -2x^3 + 2x^2 - 11x$$

$$6b) 5x - (x^2 + 3x^3) + 3x^2 - x^3 + 2x =$$

$$= 5x - x^2 - 3x^3 + 3x^2 - x^3 + 2x = -4x^3 + 2x^2 + 7x$$

$$6c) 11x^7y^3 + 4xy^5 - 9x^7y^3 + xy^5 - x^2 = 2x^7y^3 + 5xy^5 - x^2$$

$$7) -x^2y - (-3x^2 \cdot 7y) + (16x^2y^3z : 4y^2z) =$$

$$= -x^2y - (-21x^2y) + \left(\frac{16x^2y^{\cancel{3}^1}z}{4y^{\cancel{2}^1}z} \right) = -x^2y + 21x^2y + 4x^2z$$

$$= \underline{\underline{24x^2y}}$$