I'm not robot
reCAPTCHA
Continue

Height width of a4 paper

A4 paper measures 21cm x 29.7cm. The table below displays the dimensions of A4 paper in centimetres.Paper Size Type Paper Width Paper Height A4 Dimensions 21 cm 29.7 cm Letter Dimensions 21.6 cm 28 cm Letter size: Canada and the United States of America.A4 size in mm: United Kingdom, Australia, Germany, Singapore, India, United Arab Emirates, Philippines, New Zealand and nearly ever other country in the world. What are Centimetres? Centimetres are also known as cm and are part of the metric measurement system. There are 100cm in a metre, and 10 millimeters in a cm. 2.54cms are equivalent to one inch. Centimetres are most used for measuring small to medium distances. For sizing as the ingredient used in papermaking, see Sizing § Papermaking. Standard sizes of paper Paper sizes A0 to A8, life-size installation "The invasion of the square root" at the CosmoCaixa Barcelona science museum A size chart illustrating the ISO A series and a comparison with American letter and legal formats. Comparison of some paper and photographic paper sizes close to the A4 size. Paper size standards govern the size of sheets of paper used as writing paper, stationery, cards, and for some printed documents. The ISO 216 standard, which includes the commonly used A4 size, is the international standard for paper size. It is used across the world except in North America and parts of Central and South America, where North American paper sizes such as "Letter" and "Legal" are used.[1] The international standard for envelopes is the C series of ISO 269. International paper sizes Map of the world showing adoption of paper sizes ISO A4 exclusively US-Letter predominantly US-Letter exclusively Main article: ISO 216 See Switching costs, Network effects and Standardization for possible reasons for differing regional adoption rates of the ISO standard sizes. The international paper size standard is ISO 216. It is based on the German DIN 476 standard for paper sizes. ISO paper sizes are all based on a single aspect ratio of the square root of 2, or approximately 1:1.41421. There are different series, as well as several extensions. The following international paper sizes are included in Cascading Style Sheets (CSS): A3, A4, A5, B4, B5.[2] A series A size chart illustrating the ISO A series. There are 11 sizes in the A series, designated A0–A10, all of which have an aspect ratio of a b = 2 ≈ 1.41421 … {\displaystyle {\frac {a}{b}}={\sqrt {2}}\approx 1.41421\ldots} , where a is the long side and b is the short side. Since A series sizes share the same aspect ratio (√2), they can be scaled to other A series sizes without being distorted, and two sheets can be reduced to fit on exactly one sheet without any cutoff or margins. The A0 base size is defined as having an area of 1 m2; given an aspect ratio of √2, the dimensions of A0 are: 2 4 m {\displaystyle {\sqrt[{4}]{2}}\,\mathrm {m} } by 1 2 4 m {\displaystyle {\frac {1}{\sqrt[{4}]{2}}}\,\mathrm {m} } . or, rounded to the nearest millimetre, 841 mm × 1,189 mm (33.1 in × 46.8 in). A series sizes are related in that the smaller dimension of a given size is the larger dimension of the next smaller size, and folding an A series sheet in half in its larger dimension—that is, folding it in half parallel to its short edge—results in two halves that are each the size of the next smaller A series size. As such, a folded brochure of a given A series size can be made by folding sheets of the next larger size in half, e.g. A4 sheets can be folded to make an A5 brochure. The fact that halving a sheet with an aspect ratio of √2 results in two sheets that themselves both have an aspect ratio of √2 is proven as follows: a b = 2 , {\displaystyle {\frac {a}{b}}={\sqrt {2}},} where a is the long side and b is the short side. The aspect ratio for the new dimensions of the folded paper is: b a 2 = 2 b a = 2 1 2 = 2 = a b . {\displaystyle {\frac {b}{\frac {a}{2}}}=2{\frac {b}{a}}=2{\frac {1}{\sqrt {2}}}={\sqrt {2}}={\frac {a}{b}}.} The advantages of basing a paper size upon an aspect ratio of √2 were first noted in 1786 by the German scientist and philosopher Georg Christoph Lichtenberg.[3] When a sheet is folded, the length to width ratio does not change. The formats that became A2, A3, B3, B4 and B5 were developed in France, having been proposed by the mathematician Lazare Carnot, and published for judicial purposes in 1798 during the French Revolution.[4] Early in the 20th century, Dr Walter Porstmann turned Lichtenberg's idea into a proper system of different paper sizes. Porstmann's system was introduced as a DIN standard (DIN 476) in Germany in 1922, replacing a vast variety of other paper formats. Even today, the paper sizes are called "DIN A4" (IPA: [diːn.ʔaː.fiːɡl]) in everyday use in Germany and Austria. The DIN 476 standard spread quickly to other countries. Before the outbreak of World War II, it had been adopted by the following countries: Belgium (1924) Netherlands (1925) Norway (1926) Finland (1927) Switzerland (1929) Sweden (1930) Soviet Union (1934) Hungary (1938) Italy (1939) During World War II, the standard was adopted by Uruguay (1942), Argentina (1943) and Brazil (1943), and afterwards spread to other countries: Spain (1947) Austria (1948) Iran (1948) Romania (1949) Japan (1951) Denmark (1953) Czechoslovakia (now Czech Republic and Slovakia) (1953) Israel (1954) Portugal (1954) Yugoslavia (now Croatia, Serbia, Slovenia, Bosnia and Herzegovina, Montenegro, and North Macedonia) (1956) India (1957) Poland (1957) United Kingdom (1959) Ireland (1959) Venezuela (1962) New Zealand (1963) Iceland (1964) Mexico (1965) South Africa (1966) France (1967) Peru (1967) Turkey (1967) Chile (1968) Greece (1970) Rhodesia (now Zimbabwe) (1970) Singapore (1970) Bangladesh (1972) Thailand (1973) Barbados (1973) Australia (1974) Ecuador (1974) Colombia (1975) Kuwait (1975) Kazakhstan (n.d.) By 1975, so many countries were using the German system that it was established as an ISO standard, as well as the official United Nations document format. By 1977, A4 was the standard letter format in 88 of 148 countries. Today the standard has been adopted by all countries in the world except the United States and Canada. In Mexico, Costa Rica, Colombia, Venezuela, Chile, and the Philippines, the US letter format is still in common use, despite their official adoption of the ISO standard. The weight of an A series sheet of a given paper weight can be calculated by knowing the ratio of its size to the A0 sheet. For example, an A4 sheet is 1⁄16 the size of an A0 sheet, so if it is made from 80 g/m2 paper, it weighs 5 g, which is 1⁄16 of 80 g. B series A size chart illustrating the ISO B series. The B series paper sizes are less common than the A series. They have the same aspect ratio of A series: a b = 2 = 1.41... {\displaystyle {\frac {a}{b}}={\sqrt {2}}=1.41...} However, they have a different area. The area of B series sheets is in fact the geometric mean of successive A series sheets. B1 is between A0 and A1 in size, with an area of 0.707 m2 (1⁄√2 m2). As a result, B0 is 1 metre wide, and other sizes of the series are a half, a quarter or further fractions of a metre wide: in general, every B size has one of its sides 1⁄power of two meters long. That side is the short side for B0, B2, B4, etc. and the long side for B1, B3, B5, etc. While less common in office use, the B series is used for a variety of special applications. Many posters use B-series paper or a close approximation, such as 50 cm × 70 cm ~ B2. B5 is a relatively common choice for books. B7 is equal to the passport size ID-3 from ISO/IEC 7810. B4, B5 and B6 are used for envelopes that fit C-series envelopes. The B-series is widely used in the printing industry to describe both paper sizes and printing press sizes, including digital presses. B3 paper is used to print two US letter or A4 pages side by side using imposition; four pages would be printed on B2, eight on B1, etc.[need quotation to verify] C series A size chart illustrating the ISO C series. The C series is defined in ISO 269, which was withdrawn in 2009 without a replacement, but is still specified in several national standards. It is primarily used for envelopes. The area of C series sheets is the geometric mean of the areas of the A and B series sheets of the same number; for instance, the area of a C4 sheet is the geometric mean of the areas of an A4 sheet and a B4 sheet. This means that C4 is slightly larger than A4, and slightly smaller than B4. The practical usage of this is that a letter written on A4 paper fits inside a C4 envelope, and both A4 and C4 paper fits inside a B4 envelope. Some envelope formats with mixed sides from adjacent sizes (and thus an approximate aspect ratio of 2:1) are also defined in national adaptations of the ISO standard, e.g. DIN C6/C5 (also known as C65) is 114 mm × 229 mm where the common side to C5 and C6 is 162 mm. Overview of ISO paper sizes ISO paper sizes in portrait view (with rounded inch values) Format A series[5] B series[6] C series[7] Size mm × mm inch × inch mm × mm inch × inch mm × mm inch × inch 0 841 × 1,189 33+1⁄8 × 46+19⁄24 1,000 × 1,414 39+3⁄8 × 55+2⁄3 917 × 1,297 36+1⁄12 × 51+1⁄12 1 594 × 841 23+3⁄8 × 33+1⁄8 707 × 1,000 27+5⁄6 × 39+3⁄8 648 × 917 25+1⁄2 × 36+1⁄12 2 420 × 594 16+13⁄24 × 23+3⁄8 500 × 707 19+2⁄3 × 27+5⁄6 458 × 648 18+1⁄24 × 25+1⁄2 3 297 × 420 11+17⁄24 × 16+13⁄24 353 × 500 13+11⁄12 × 19+2⁄3 324 × 458 12+3⁄4 × 18+1⁄24 4 210 × 297 8+1⁄4 × 11+17⁄24 250 × 353 9+5⁄6 × 13+11⁄12 229 × 324 9 × 12+3⁄4 5 148 × 210 5+5⁄6 × 8+1⁄4 176 × 250 6+11⁄12 × 9+5⁄6 162 × 229 6+3⁄8 × 9 6 105 × 148 4+1⁄8 × 5+5⁄6 125 × 176 4+11⁄12 × 6+11⁄12 114 × 162 4+1⁄2 × 6+3⁄8 7 74 × 105 2+11⁄12 × 4+1⁄8 88 × 125 3+11⁄24 × 4+11⁄12 81 × 114 3+5⁄24 × 4+1⁄2 8 52 × 74 2+1⁄24 × 2+11⁄12 62 × 88 2+11⁄24 × 3+11⁄24 57 × 81 2+1⁄4 × 3+5⁄24 9 37 × 52 1+11⁄24 × 2+1⁄24 44 × 62 1+3⁄4 × 2+11⁄24 40 × 57 1+7⁄12 × 2+1⁄4 10 26 × 37 1+1⁄24 × 1+11⁄24 31 × 44 1+5⁄24 × 1+3⁄4 28 × 40 1+1⁄12 × 1+7⁄12 i (α A · r i + 1) × (α A · r i) , {\displaystyle \left(\alpha _{A}\cdot r^{i+1}\right)\times \left(\alpha _{A}\cdot r^{i}\right),} where α A = (2 4 · 1000) mm ; r = 1 2 {\displaystyle \alpha _{A}=({\sqrt[{4}]{2}}\cdot 1000)\,{\text{mm}};r={\frac {1}{\sqrt {2}}}} (α B · r i + 1) × (α B · r i) , {\displaystyle \left(\alpha _{B}\cdot r^{i+1}\right)\times \left(\alpha _{B}\cdot r^{i}\right),} where α B = (2 · 1000) mm ; r = 1 2 {\displaystyle \alpha _{B}=({\sqrt {2}}\cdot 1000)\,{\text{mm}};r={\frac {1}{\sqrt {2}}}} (α C · r i + 1) × (α C · r i) , {\displaystyle \left(\alpha _{C}\cdot r^{i+1}\right)\times \left(\alpha _{C}\cdot r^{i}\right),} where α C = (8 8 · 1000) mm ; r = 1 2 {\displaystyle \alpha _{C}=({\sqrt[{8}]{8}}\cdot 1000)\,{\text{mm}};r={\frac {1}{\sqrt {2}}}} The α {\displaystyle \alpha } variables are the distinct first terms in the three geometric progressions of the same common-ratio equal to the square root of two. Each of the three geometric progressions (corresponding to the three series A, B, C) is formed by all possible paper dimensions (length and width) of the series arranged in a decreasing order. This interesting arrangement of dimensions is also very useful - not only it forms a geometric progression with easy to remember formulae, it also has that each consecutive pair of values (like a sliding window of size 2) will automatically correspond to the dimensions of a standard paper format in the series. The tolerances specified in the standard are ±1.5 mm (0.06 in) for dimensions up to 150 mm (5.9 in), ±2 mm (0.08 in) for lengths in the range 150 to 600 mm (5.9 to 23.6 in) and ±3 mm (0.12 in) for any dimension above 600 mm (23.6 in). German original The German standard DIN 476 was published on 18 August 1922 and is the original specification of the A, B and C sizes. In 1991, it was split into DIN 476-1 for the A and B formats and 476-2 for the C series. The former has been withdrawn in 2002 in favor of adopting the international standard as DIN EN ISO 216, but part 2 has been retained and was last updated in 2008. The first and the second editions of DIN 476 from 1922 and 1925 also included a D series. DIN D series paper sizes in portrait view (with rounded inch values) Format D series Size mm × mm inch × inch 0 771 × 1,090 30+3⁄8 × 42+11⁄12 1 545 × 771 21+11⁄24 × 30+3⁄8 2 385 × 545 15+1⁄6 × 21+11⁄24 3 272 × 385 10+17⁄24 × 15+1⁄6 4 192 × 272 7+13⁄24 × 10+17⁄24 5 136 × 192 5+3⁄8 × 7+13⁄24 6 96 × 136 3+19⁄24 × 5+3⁄8 7 68 × 96 2+2⁄3 × 3+19⁄24 8 48 × 68 1+7⁄8 × 2+2⁄3 The smallest formats specified originally were A13 and B13, which were reduced to x10 in the 1930 edition, as well as C8 and D8; C9 and C10 have been added in the 1976 revision for compatibility with photography sizes: C8 closely matches 6×9 photos, C9 and C10 closely match 7×7 and 5×5 slides, respectively. DIN 476:1922 tiny formats (with rounded inch values) Format A B Size mm × mm inch × inch mm × mm inch × inch 11 18 × 26 17⁄24 × 1+1⁄24 22 × 31 7⁄8 × 1+5⁄24 12 13 × 18 1⁄2 × 17⁄24 15 × 22 7⁄12 × 7⁄8 13 9 × 13 3⁄8 × 1⁄2 11 × 15 5⁄12 × 7⁄12 DIN 476 provides for formats larger than A0, denoted by a prefix factor. In particular, it lists the formats 2A0 and 4A0, which are twice and four times the size of A0 respectively. However, ISO 216:2007 notes 2A0 and 4A0 in the table of Main series of trimmed sizes (ISO A series) as well: "The rarely used sizes [2A0 and 4A0] which follow also belong to this series." DIN 476 overformats (with rounded inch values) Name mm × mm inch × inch 4A0 1,682 × 2,378 66+5⁄24 × 93+5⁄8 2A0 1,189 × 1,682 46+19⁄24 × 66+5⁄24 DIN 476 also used to specify slightly tighter tolerances than ISO 216: ±1 mm (0.04 in) for dimensions up to 150 mm (5.9 in), ±1.5 mm (0.06 in) for lengths in the range 150 mm to 600 mm (5.9 to 23.6 in) and ±2 mm (0.08 in) for any dimension above 600 mm (23.6 in). Swedish extensions Comparison of ISO 216 and Swedish standard SIS 014711 paper sizes between A4 and A3 sizes. The Swedish standard SIS 01 47 11[8] generalized the ISO system of A, B, and C formats by adding D, E, F, and G formats to it. Its D format sits between a B format and the next larger A format (just like C sits between A and the next larger B). The remaining formats fit in between all these formats, such that the sequence of formats A4, E4, C4, G4, B4, F4, D4, *H4, A3 is a geometric progression, in which the dimensions grow by a factor 16√2 from one size to the next. However, this SIS standard does not define any size between a D format and the next larger A format (called *H in the previous example). Of these additional formats, G5 (169 × 239 mm) and E5 (155 × 220 mm) are popular in Sweden and the Netherlands for printing dissertations,[9] but the other formats have not turned out to be particularly useful in practice. They have not been adopted internationally and the Swedish standard has been withdrawn. The Swedish and German D series basically contain the same sizes, but are offset by one, i.e. DIN D4 equals SIS D5 and so on. SIS 014711 formulas,[10] including the missing step, series *H, between D and A, n = 0..10, r = 16√2, s = √1⁄2 Designation Shorter edge Longer edge An r−4 × sn r+4 × sn En r−3 × sn r+5 × sn Cn r−2 × sn r+6 × sn Gn r−1 × sn r+7 × sn Bn r 0 × sn r+8 × sn Fn r+1 × sn r+9 × sn Dn r+2 × sn r+10 × sn *Hn r+3 × sn r+11 × sn A(n-1) r+4 × sn r+12 × sn Swedish D through G series n A E C F B G D *H 0 841 × 1189 878 × 1242 917 × 1297 958 × 1354 1000 × 1414 1044 × 1477 1091 × 1542 1139 × 1610 1 595 × 841 621 × 878 648 × 917 677 × 958 707 × 1000 738 × 1044 771 × 1091 805 × 1139 2 420 × 595 439 × 621 459 × 648 479 × 677 500 × 707 522 × 738 545 × 771 569 × 805 3 297 × 420 310 × 439 324 × 459 339 × 479 354 × 500 369 × 522 386 × 545 403 × 569 4 210 × 297 220 × 310 229 × 324 239 × 339 250 × 354 261 × 369 273 × 386 285 × 403 5 149 × 210 155 × 220 162 × 229 169 × 239 177 × 250 185 × 261 193 × 273 201 × 285 6 105 × 149 110 × 155 115 × 162 120 × 169 125 × 177 131 × 185 136 × 193 142 × 201 7 74 × 105 78 × 110 81 × 115 85 × 120 88 × 125 92 × 131 96 × 136 101 × 142 8 53 × 74 55 × 78 57 × 81 60 × 85 63 × 88 65 × 92 68 × 96 71 × 101 9 37 × 53 39 × 55 41 × 57 42 × 60 44 × 63 46 × 65 48 × 68 50 × 71 10 26 × 37 27 × 39 29 × 41 30 × 42 31 × 44 33 × 46 34 × 48 36 × 50 Japanese variation The Japanese standard JIS P 0138 defines two main series of paper sizes. The JIS A-series is identical to the ISO A-series, but with slightly different tolerances. The area of B-series paper is 1.5 times that of the corresponding A-paper (instead of the factor √2 = 1.414... for the ISO B-series), so the length ratio is approximately 1.22 times the length of the corresponding A-series paper. The aspect ratio of the paper is the same as for A-series paper. Both A- and B-series paper is widely available in Japan, Taiwan and China, and most photocopiers are loaded with at least A4 and either one of A3, B4 and B5 paper. Cascading Style Sheets (CSS) only supports the most popular sizes, JIS-B4 and JIS-B5.[2] JIS B series paper sizes (plus rounded inch values) Size mm × mm inch × inch sun × sun 0 1,030 × 1,456 40+13⁄24 × 57+1⁄3 34 × 48 1 728 × 1,030 28+2⁄3 × 40+13⁄24 24 × 34 2 515 × 728 20+7⁄24 × 28+2⁄3 17 × 24 3 364 × 515 14+1⁄3 × 20+7⁄24 12 × 17 4 257 × 364 10+1⁄8 × 14+1⁄3 8.5 × 12 5 182 × 257 7+1⁄6 × 10+1⁄8 6 × 8.5 6 128 × 182 5+1⁄24 × 7+1⁄6 4.2 × 6 7 91 × 128 3+7⁄12 × 5+1⁄24 3 × 4.2 8 64 × 91 2+1⁄2 × 3+7⁄12 2.1 × 3 9 45 × 64 1+19⁄24 × 2+1⁄2 1.5 × 2.1 10 32 × 45 1+1⁄4 × 1+19⁄24 1 × 1.5 11 22 × 32 7⁄8 × 1+1⁄4 0.7 × 1 12 16 × 22 5⁄8 × 7⁄8 0.5 × 0.7 JIS P 0202 raw sizes (plus rounded inch values) Size mm × mm inch × inch AR sun × sun A 625 × 880 24+5⁄8 × 34+5⁄8 √2:1 20.6 × 29 B 765 × 1,085 30+1⁄8 × 42+17⁄24 √2:1 25.25 × 35.8 Shiroku-ban (4-6) 788 × 1,091 31+1⁄24 × 42+23⁄24 1.38 26 × 36 Kiku-ban (Chrysanthemum) 636 × 939 25+1⁄24 × 36+23⁄24 1.48 21 × 31 Hattron 900 × 1,200 35+5⁄12 × 47+1⁄4 4:3 29.7 × 39.6 A popular size for books, dubbed AB, combines the shorter edges of A4 and B4. Another two with an aspect ratio approximating 16:9 are 20% narrower variants of A6 and B6, respectively, the latter resulting from cutting JIS B1 into 4 × 10 sheets (thus "B40"). There are also a number of traditional paper sizes, which are now used mostly by printers. The most common of these old series are the Shiroku-ban and the Kiku paper sizes. Other Japanese paper sizes (plus rounded inch values)[need quotation to verify] Size mm × mm inch × inch AR sun × sun Notes AB 210 × 257 8+1⁄4 × 10+1⁄8 11:9 6.93 × 8.48 A4/A5 × JIS B4/B5 B40 103 × 182 4+1⁄24 × 7+1⁄6 16:9 3.4 × 6 JIS B1 height⁄10 × width⁄4 35 84 × 148 3+7⁄24 × 5+5⁄6 1.76 2.77 × 4.88 trimmed 3 × 5 Kiku-ban 227 × 304 8+11⁄12 × 11+23⁄24 1.34 7.5 × 10 218 × 304 8+7⁄12 × 11+23⁄24 1.39 7.2 × 10 152 × 227 6 × 8+11⁄12 1.49 5 × 7.5 152 × 218 6 × 8+7⁄12 10:7 5 × 7.2 Chinese extensions The Chinese standard GB/T 148–1997,[11] which replaced GB 148–1989, documents the standard ISO series, A and B, but adds a custom D series. This Chinese format originates from the Republic of China (1912–1949). The D series is not identical to the German or Swedish D series. It does not strictly follow the same principles as ISO paper sizes: The aspect ratio is only very roughly √2. The short side of a size is always 4 mm longer than the long side of the next smaller size. The long side of a size is always exactly – i.e. without further rounding – twice as long as the short side of the next smaller size. SAC paper sizes (with rounded inch values and raw sizes) Format D series AR Alias Untrimmed sizes Size mm × mm inch × inch mm × mm inch × inch 0 764 × 1,064 30+1⁄12 × 41+7⁄8 1.3927 1K 780 × 1,080 30+17⁄24 × 42+1⁄2 1 532 × 760 20+23⁄24 × 29+11⁄12 1.4286 2K 540 × 780 21+1⁄4 × 30+17⁄24 2 380 × 528 14+23⁄24 × 20+19⁄24 1.3895 4K 390 × 540 15+3⁄8 × 21+1⁄4 3 264 × 376 10+3⁄8 × 14+19⁄24 1.4242 8K 270 × 390 10+5⁄8 × 15+3⁄8 4 188 × 260 7+5⁄12 × 10+1⁄4 1.3830 16K 195 × 270 7+2⁄3 × 10+5⁄8 5 130 × 184 5+1⁄8 × 7+1⁄4 1.4154 32K 135 × 195 5+1⁄3 × 7+2⁄3 6 92 × 126 3+5⁄8 × 4+23⁄24 1.3696 64K 97 × 135 3+5⁄6 × 5+1⁄3 Indian variants The Bureau of Indian Standards recommends the “ISO-A series” size of drawing sheet for engineering drawing works. The Bureau of Indian Standards specifies all the recommendations for engineering drawing sheets its bulletin IS 10711: 2001.[12] The Bureau extended the ISO-A series with a Special Elongated Sizes (Second Choice). These sizes are achieved by increasing the shorter dimensions of a sheet of the ISO A series to lengths that are multiples of the shorter dimensions of the chosen basic sheet. These sizes are used when a sheet of greater length is needed. IS Special Elongated Sizes (Second Choice) with rounded inch values Size mm × mm in × in AR A3 x 3 420 × 891 16+13⁄24 × 35+1⁄12 3:√2 A3 x 4 420 × 1,189 16+13⁄24 × 46+19⁄24 4:√2 A4 x 3 297 × 630 11+17⁄24 × 24+19⁄24 3:√2 A4 x 4 297 × 841 11+17⁄24 × 33+1⁄8 4:√2 A4 x 5 297 × 1,051 11+17⁄24 × 41+3⁄8 5:√2 There is also a Exceptional Elongated Sizes (Third Choice). These sizes are obtained by increasing the shorter dimensions of a sheet of the ISO-A series to lengths that are multiples of the shorter dimensions of the chosen basic sheet. These sizes are used when a very large or extra elongated sheet is needed. IS Exceptional Elongated Sizes (Third Choice) with rounded inch values Size mm × mm in × in AR A0 x 2 1,189 × 1,682 46+19⁄24 × 66+5⁄24 √2:1 A0 x 3 1,189 × 2,523 46+19⁄24 × 99+1⁄3 3:√2 A1 x 3 841 × 1,783 33+1⁄8 × 70+5⁄24 3:√2 A1 x 4 841 × 2,378 33+1⁄8 × 93+5⁄8 4:√2 A2 x 3 594 × 1,261 23+3⁄8 × 49+5⁄8 3:√2 A2 x 4 594 × 1,682 23+3⁄8 × 66+5⁄24 4:√2 A2 x 5 594 × 2,102 23+3⁄8 × 82+3⁄4 5:√2 A3 x 5 420 × 1,486 16+13⁄24 × 58+1⁄2 5:√2 A3 x 6 420 × 1,783 16+13⁄24 × 70+5⁄24 6:√2 A3 x 7 420 × 2,080 16+13⁄24 × 81+7⁄8 7:√2 A4 x 6 297 × 1,261 11+17⁄24 × 49+5⁄8 6:√2 A4 x 7 297 × 1,471 11+17⁄24 × 57+11⁄12 7:√2 A4 x 8 297 × 1,682 11+17⁄24 × 66+5⁄24 8:√2 A4 x 9 297 × 1,892 11+17⁄24 × 74+1⁄2 9:√2 Soviet variants The first standard of paper size in the Soviet Union was GOST 303 in 1926. Six years later, it was replaced by OST 5115 which generally followed DIN 476 principles, but used Cyrillic lowercase letters instead of Latin uppercase, had the second row shifted so that 60 (B0) roughly corresponded to B1 and, more importantly, had slightly different sizes:[13] OST 5115 formats (1932) Format a (A) б (B) в (V, C) Size mm × mm inch × inch mm × mm inch × inch mm × mm inch × inch 0 814 × 1,152 32+1⁄24 × 45+3⁄8 747 × 1,056 29+5⁄12 × 41+7⁄12 1 576 × 814 22+2⁄3 × 32+1⁄24 528 × 747 20+19⁄24 × 29+5⁄12 628 × 888 24+17⁄24 × 34+23⁄24 2 407 × 576 16+1⁄24 × 22+2⁄3 373 × 528 14+2⁄3 × 20+19⁄24 444 × 628 17+1⁄2 × 24+17⁄24 3 288 × 407 11+1⁄3 × 16+1⁄24 264 × 373 10+3⁄8 × 14+2⁄3 314 × 444 12+3⁄8 × 17+1⁄2 4 203 × 288 8 × 11+1⁄3 186 × 264 7+1⁄3 × 10+3⁄8 222 × 314 8+3⁄4 × 12+3⁄8 5 144 × 203 5+2⁄3 × 8 132 × 186 5+5⁄24 × 7+1⁄3 157 × 222 6+1⁄6 × 8+3⁄4 6 101 × 144 3+23⁄24 × 5+2⁄3 93 × 132 3+2⁄3 × 5+5⁄24 111 × 157 4+3⁄8 × 6+1⁄6 7 72 × 101 2+5⁄6 × 3+23⁄24 66 × 93 2+7⁄12 × 3+2⁄3 78 × 111 3+1⁄12 × 4+3⁄8 8 50 × 72 1+23⁄24 × 2+5⁄6 46 × 66 1+19⁄24 × 2+7⁄12 55 × 78 2+1⁄6 × 3+1⁄12 9 36 × 50 1+5⁄12 × 1+23⁄24 33 × 46 1+7⁄24 × 1+19⁄24 39 × 55 1+13⁄24 × 2+1⁄6 10 25 × 36 1 × 1+5⁄12 23 × 33 11⁄12 × 1+7⁄24 11 18 × 25 17⁄24 × 1 16 × 23 5⁄8 × 11⁄12 12 12 × 18 11⁄24 × 17⁄24 11 × 16 5⁄12 × 5⁄8 13 9 × 12 3⁄8 × 11⁄24 The general adaptation of ISO 216 in the Soviet Union, which replaced OST 5115, was GOST 9327. In its 1960 version, it lists formats down to A13, B12 and C8 and also specifies 1⁄2, 1⁄4 and 1⁄8 prefixes for halving the shorter side (repeatedly) for stripe formats, e.g. 1⁄2A4 = 105 mm × 297 mm. A1, A2, A3, A4 and non-ISO sizes as GOST 3450-60 formats A standard for technical drawings from 1960, GOST 3450,[14] introduces alternative numeric format designations to deal with very high or very wide sheets. These 2-digit codes are based upon A4 = "11": The first digit is the factor the longer side (297 mm) is multiplied by and the second digit is the one for the shorter side (210 mm), so "24" is 2×297 mm × 4×210 mm = 594 mm × 840 mm. Soviet formats with multiplied shorter side (mm×mm) n (×1) ×2 ×3 ×4 ×5 ×6 5 = A0 = 2A0 2523×1189 3364×1189 4204×1189 5045×1189 4 = A1 = A0 1784×841 2378×841 2973×841 3568×841 3 = A2 = A1 1261×595 1682×595 2102×595 2523×595 2 = A3 = A2 892×420 1189×420 1487×420 1784×420 1 = A4 = A3 631×297 841×297 1051×297 1261×297 0 = A5 = A4 446×210 595×210 743×210 892×210 A2, A3, A4 and some of their derived non-ISO sizes as GOST 2301-68 formats GOST 3450 from 1960 was replaced by ESKD GOST 2301 in 1968,[15] but the numeric designations remained in popular use much longer. The new designations were not purely numeric, but consisted of the ISO label followed by an 'x', or possibly the multiplication sign '×', and the factor, e.g. DIN 2A0 = GOST A0×2, but DIN 4A0 ≠ GOST A0×4, also listed are: A0×3, A1×3, A1×4, A2×3–A2×5, A3×3–A3×7, A4×3–A4×9. The formats ...×1 and ...×2 usually would be aliases for existing formats. Elongated sizes ISO 5457, last updated in 1999,[16] introduces elongated sizes that are formed by combination of the dimensions of the short side of an A-size (e.g. A2) with the dimensions of the long side of another larger A-size (e.g. A0). The result is a new size, for example with the abbreviation A2.0 we would have a 420 × 1189 mm size. elongated paper sizes schema ISO 5457 elongated paper sizes Size Short edge Long edge mm × mm in × in AR A1.0 A1/A2 A0 594 × 1,189 23+3⁄8 × 46+19⁄24 2:1 A2.0 A2/A3 A0 420 × 1,189 16+13⁄24 × 46+19⁄24 4:√2 A2.1 A1/A0 420 × 841 16+13⁄24 × 33+1⁄8 2:1 A3.0 A3/A4 A0 297 × 1,189 11+17⁄24 × 46+19⁄24 4:1 A3.1 A1/A0 297 × 841 11+17⁄24 × 33+1⁄8 4:√2 A3.2 A2/A1 297 × 594 11+17⁄24 × 23+3⁄8 2:1 International envelope and insert sizes Main article: Envelope § Sizes Common folded or cut sizes of ISO paper: stripe formats and inserts Name mm × mm inch × inch AR Notes 1⁄3A4 99 × 210 3+11⁄12 × 8+1⁄4 3:√2 common flyer or stripe size unnamed 105 × 210 4+1⁄8 × 8+1⁄4 2:1 standard folded size of German letters DIN 5008 Form A DIN 5008 (previously DIN 676) prescribes, among many other things, two variants, A and B, for the location of the address field on the first page of a business letter and how to fold the A4 sheet accordingly, so the only part visible of the main content is the subject line. Common envelopes for ISO paper, that are not simple C-series and B-series formats Name mm × mm inch × inch AR Content Notes DL 110 × 220 4+1⁄3 × 8+2⁄3 2:1 1⁄3A4, DIN 5008 A and B designated long, "DIN lang" (DIN long); sometimes erroneously called "DLE", apparently for envelope, instead; exactly matches Swedish SIS E6/E5 (E6: 110 mm × 155 mm, E5: 155 mm × 220 mm); envelope #5 in China, Chou/N 6 in Japan C6/C5 114 × 229 4+1⁄2 × 9 2:1 common edge of C6 and C5 is 161 mm; also known as "Postfix", "DL+" or "DL Max", but those terms are not standardized Italian 110 × 230 4+1⁄3 × 9+1⁄24 2.10:1 centimeter-rounded C6/C5 or slightly wider DL C7/C6 81 × 162 3+5⁄24 × 6+3⁄8 2:1 1⁄3A5 common edge of C7 and C6 is 114 mm B6/C4 125 × 324 4+11⁄12 × 12+3⁄4 2.6 B6 is 125 mm × 176 mm, C4 is 229 mm × 324 mm Invite 220 × 220 8+2⁄3 × 8+2⁄3 1:1 square card with edge of A4 and A5, 210 mm DIN E4 240 × 400 9+11⁄24 × 15+3⁄4 5:3 listed in DIN 476–2, but not part of a series proper; SIS E4 is 220 mm × 310 mm International raw sizes ISO 217 raw and ISO 5457 untrimmed sheet sizes raw mm × mm inch × inch special raw mm × mm inch × inch untrimmed mm × mm inch × inch trimmed mm × mm inch × inch mm × mm inch × inch RA0 860 × 1,220 33+3⁄4 × 48 SRA0 900 × 1,280 35+1⁄2 × 50+1⁄2 A0U 880 × 1,230 34+3⁄4 × 48+1⁄2 A0T 841 × 1,189 33 × 46+3⁄4 821 × 1,159 32+1⁄4 × 45+3⁄4 RA1 610 × 860 24 × 33+3⁄4 SRA1 640 × 900 25+1⁄4 × 35+1⁄2 A1U 625 × 880 24+1⁄2 × 34+3⁄4 A1T 594 × 841 23+1⁄2 × 33 574 × 811 22+1⁄2 × 32 RA2 430 × 610 17 × 24 SRA2 450 × 640 17+3⁄4 × 25+1⁄4 A2U 450 × 625 17+3⁄4 × 24+1⁄2 A2T 420 × 594 16+1⁄2 × 23+1⁄2 400 × 564 15+3⁄4 × 22+1⁄4 RA3 305 × 430 12 × 17 SRA3 320 × 450 12+1⁄2 × 17+3⁄4 A3U 330 × 450 13 × 17+3⁄4 A3T 297 × 420 11+3⁄4 × 16+1⁄2 277 × 390 11 × 15+1⁄4 RA4 215 × 305 8+1⁄2 × 12 SRA4 225 × 320 8+3⁄4 × 12+1⁄2 A4U 240 × 330 9+1⁄2 × 13 A4T 210 × 297 8+1⁄4 × 11+3⁄4 180 × 277 7 × 11 ISO 5457 specifies drawing paper sizes with a trimmed size equal to the A series sizes from A4 upward. The untrimmed sizes are 3 to 4 cm larger and rounded to the nearest centimeter. A0 through A3 are used in landscape orientation, while A4 is used in portrait orientation. Designations for preprinted drawing paper include the base sizes and a suffix, either T for trimmed or U for untrimmed sheets. The withdrawn standard ISO 2784 did specify sizes of continuous, fan-fold forms based upon whole inches as was common for paper in continuous lengths in automatic data processing (ADP) equipment. Specifically, 12 inches (304.8 mm) were considered an untrimmed variant of the A4 height of 297 mm. ISO 2784:1974 correspondence for continuous ADP paper Size Acceptable equivalent Direct equivalent Exact size Gross size inch × inch mm × mm AR mm × mm mm × mm inch × inch A4 8 × 12 203.2 × 304.8 3:2 8+1⁄3 × 11+2⁄3 211.7 × 296.3 7:5 210 × 297 250 × 340 9+4⁄5 × 13+2⁄5 A5 6 × 8 152.4 × 203.2 4:3 5+5⁄6 × 8+1⁄3 148.2 × 211.7 10:7 148 × 210 180 × 250 7+1⁄10 × 9+4⁄5 A6 4 × 6 101.6 × 152.4 3:2 4+1⁄6 × 5+5⁄6 105.8 × 148.2 7:5 105 × 148 N/A N/A A7 3 × 4 76.20 × 101.6 4:3 N/A N/A N/A 74 × 105 N/A N/A Transitional paper sizes PA4 or L4 Hypothetic PA4-based series Name mm × mm inch × inch AR PA0 840 × 1,120 33+1⁄8 × 44+1⁄8 4:3 PA1 560 × 840 22 × 33+1⁄8 3:2 PA2 420 × 560 16+1⁄2 × 22 4:3 PA3 280 × 420 11 × 16+1⁄2 3:2 PA4 210 × 280 8+1⁄4 × 11 4:3 PA5 140 × 210 5+1⁄2 × 8+1⁄4 3:2 PA6 105 × 140 4+1⁄8 × 5+1⁄2 4:3 PA7 70 × 105 2+3⁄4 × 4+1⁄8 3:2 PA8 52 × 70 2 × 2+3⁄4 1.35 PA9 35 × 52 1+3⁄8 × 2 1.49 PA10 26 × 35 1 × 1+3⁄8 1.35 A transitional size called PA4 (210 mm × 280 mm or 8.27 in × 11.02 in), sometimes dubbed L4, was proposed for inclusion into the ISO 216 standard in 1975. It has the height of Canadian P4 paper (215 mm × 280 mm, about 8+1⁄2 in × 11 in) and the width of international A4 paper (210 mm × 297 mm or 8.27 in × 11.69 in), i.e. it uses the smaller value among the two for each side. The table shows how this format can be generalized into an entire format series. The PA formats did not end up in ISO 216, because the committee decided that the set of standardized paper formats should be kept to the minimum necessary.[citation needed] However, PA4 remains of practical use today. In landscape orientation, it has the same 4:3 aspect ratio as the displays of traditional TV sets, some computer displays (e.g. the iPad) and data projectors. PA4, with appropriate margins, is therefore a good choice as the format of presentation slides. As a compromise between the two most popular paper sizes globally, PA4 is used

resolutions Common resolutions for 16:9 are listed in the table below: Width Height Standard 256 144 426 240 640 360 nHD 848 480 854 480 FWVGA 960 540 qHD 1024 576 1280 720 HD 1366 768 WXGA 1600 900 HD+ 1920 1080 Full HD 2560 1440 QHD 3200 1800 QHD+ 3840 2160 4K UHD 5120 2880 5K 7680 4320 8K UHD Countries Europe In Europe, 16:9 is the standard broadcast format for most TV channels and all HD broadcasts. Some countries adopted the format for analogue television, first by using the PALplus standard (now obsolete) and then by simply using WSS on normal PAL broadcasts. Country Channel Albania All channels. Andorra All channels. Armenia All channels. Austria All channels. Azerbaijan All channels. Belarus All channels. Belgium All channels. Bosnia and Herzegovina All channels. Bulgaria All channels. Cyprus All channels. Croatia HRT 1**, 2**, 3**, 4**, 5, RTL Televizija*, RTL 2*, Nova TV*, Doma TV*, RTL Kockica* Sportska Televizija**. Czech Republic All channels. Denmark All channels. Estonia All channels. Finland All channels. France All channels. Germany All channels. Georgia All channels. Greece All channels. Hungary All channels. Iceland All channels. Ireland All channels. Italy All channels. Kazakhstan All channels. Latvia All channels. Lithuania All channels. Luxembourg All channels. Malta All channels. Moldova All channels. Monaco All channels. Montenegro All channels. Netherlands All channels. North Macedonia All channels. Norway All channels. Poland All channels. Portugal All channels. Romania Always on 16:9: Antena channels (Antena 1, Antena Stars, Antena 3, Happy, ZU TV, Antena Internațional), RCS & RDS channels (including Digi24, U TV, Music Channel), Kiss TV, B1 TV, Telekom Sport, Look TV, Look Plus,Turner channels:(Cartoon Network, BoomerangOften on 16:9: TVR channels (TVR 1, TVR 2, TVR 3, TVRi), PRO channels (Pro TV, Pro 2, Pro X, Pro Cinema, Pro Gold, Pro TV Internațional)Always on 4:3 with 16:9 stretched: CNM channels (Național TV, Național 24 Plus, Favorit TV), TVR regional channels (TVR Cluj, TVR Craiova, TVR Iași, TVR Tîrgu-Mureș, TVR Timișoara), Prima TV. Russia All channels. San Marino All channels. Serbia All channels. Slovakia All channels. Slovenia All channels. Spain All channels. Sweden All channels. Switzerland All channels. Turkey All channels. Ukraine All channels. United Kingdom All channels. Oceania Country Channel Australia All channels. Fiji All channels. New Zealand All channels. Asia Country Channel Afghanistan All channels. Bangladesh SA TV. Cambodia All channels. China CCTV channels 1-15, CCTV-5+, CCTV News. Older contents in 4:3 and news contents are stretched on SD variants of these channels as stretching on SD channels is common. Hong Kong All channels. India All HD channels. Most SD channels are still broadcasting in 4:3, either fullscreen on letterboxed. Indonesia 16:9 native*: Kompas TV, BeritaSatu TV**, CNN Indonesia**, MetroTV, Trans7, Trans TV, CNBC Indonesia**, NET., Jawa Pos TV, DAAI TV, MyTV, KTV, TVRI 16:9 with inner 4:3***: RCTI, SCTV, Indosiar, MNCTV, GTV, iNews, O Channel 4:3, upscaled/stretched to 16:9****: antv, tvOne, RTV *Channels that are primarily broadcast in 16:9 sometimes are filled by 4:3 content which are either stretched or pillarboxed. **Only on digital cable/satellite ***Channels in this category broadcast in 16:9 HDTV along with inner 4:3 SDTV. Due to their visibility, some contents are either pillarboxed and windowboxed (especially in commercial ads and live sport games). Contents wider than 16:9 are usually letterboxed. They're usually stretched in SDTV mode. HD versions are limited to pay TV services and select regions. ****These channels are still using 4:3 configuration. Stretched when broadcasting in 16:9 format. Some channels have limited original 16:9 video contents. Note: Nationwide TV channels listed above are classified according to their original configuration, sorted chronologically according to TV configuration update. Configuration for exclusively digital and local channels are may vary. Local versions of nationwide channels may be different from their national version. Iran All channels. Israel All channels. Japan Japan pioneered in its analogue HDTV system (MUSE) in 16:9 format, started in the 1980s. Currently all main channels have digital terrestrial television channels in 16:9 while being simulcast in analogue 4:3 format. Many satellite broadcast channels are being broadcast in 16:9 as well. Jordan All channels. Kyrgyzstan All channels. Lebanon All channels. Malaysia All channels. Mongolia MNB & MN2, TM Television, TV5, TV6, TV8, Channel 25, Эх Орон, SBN, ETV, MNC, Eagle News TV, Edutainment TV, Star TV, SPS, Sportbox and SHUUD TV. Myanmar All channels. Nepal Kantipur Television Network AP1 TV News 24 (Nepal) TV Filmy Nepal Television Oman All channels. Pakistan All HD channels. Most SD channels are still broadcasting in 4:3, either in fullscreen or letterboxed Philippines 16:9 native*: PTV, ABS-CBN HD***, S+A HD ***, ANC (both SD and HD)***, Kapamilya Channel (both SD and HD)***, CNN Philippines, One PH,*** One News***, Hope Channel Philippines, 3ABN, Hope International, INCTV, Net 25, DZRH News Television 4:3 upscaled/stretched to 16:9**: ETC, 2nd Avenue, all BEAM's subchannels, Light Network, UNTV****, Ang Dating Daan TV, SMNI, all ABS-CBN terrestrial channels (including TVPlus channels), TV5, One Sports, GMA 7, A2Z, GTV, IBC 13 *channels that are squeezed/letterboxed to 4:3 on analog terrestrial transmissions nor no letterbox on widescreen-produced programs. **channels that are originally broadcasting in 4:3 on analog terrestrial, but upscaled or stretched to 16:9 for digital terrestrial television, cable and satellite. ***16:9 versions available on pay-TV services only. ****Some programs are aired in true 16:9 formatting Qatar All Al Jazeera Sports channels, Al Jazeera, Al Jazeera English, Qatar TV HD, all Alkass channels. Saudi Arabia All channels. Singapore All MediaCorp channels, however 16:9 contents look squashed on older 4:3 sets. Also, all 4:3 contents including news clips are stretched as stretching is common. South Korea All channels. Sri Lanka All channels Syria All channels. Taiwan TTV HD, CTV HD, CTS HD, FTV HD, PTS HD, TVBS. Thailand All channels. United Arab Emirates All channels. Vietnam All of VTC's channels, VTV channels, HTV channels and K+'s channels (selected programmes), most of local channels. Americas Country Channel Argentina All channels. Barbados All channels. Bolivia Always on 16:9: PAT, ATB. Often on 16:9: Bolivia TV. Brazil All channels. Canada All channels. Chile All channels. Colombia All channels. Costa Rica All channels. Dominican Republic All channels. Ecuador All channels. Jamaica All channels. Mexico Free-to-air television: Las Estrellas, FOROtv, Canal 5, NU9VE, Televisa Regional, Azteca Uno, Azteca 7, a+, adn40, Imagen Televisión, Excélsior TV, Canal Once, Canal 22, Una Voz con Todos, Teveunam, Milenio Televisión, Multimedios Televisión, Teleritmo, and some local stations broadcast HD signal.Pay television: U, Golden, Golden Edge, TL Novelas, Bandamax, De Película, De Película Clásico, Ritmoson Latino, TDN, TeleHit, Distrito Comedia, Tiin, Az Noticias, Az Clic!, Az Mundo, Az Corazón, Az Cinema, 52MX, TVC, TVC Deportes, Pánico, Cinema Platino, Cine Mexicano. Panama All channels. Paraguay Almost all channels on free-to-air television (especially HD Feeds), (ex.: RPC, NPY, Unicanal, channel 7 HD). SD feeds (usually found on pay television) are usually letterboxed and downscaled to 4:3. (for example: SNT & Paravisión) Peru All channels. United States All HD channels. SD feeds (usually found on pay television) are usually letterboxed and downscaled to 4:3. Uruguay All channels. Venezuela All channels. Africa This section needs expansion. You can help by adding to it. (August 2015) Country Channel Algeria Algérie 3Echourouk TV Angola All channels. Botswana All channels. Burkina Faso All channels. Cameroon All channels. Cape Verde All channels. Comoros All channels. Congo All channels. Djibouti All channels. Egypt All channels. Equatorial Guinea All channels. Eritrea All channels. Ethiopia All channels. Gabon All channels. Ghana All channels. Ivory Coast All channels. Kenya All channels. Lesotho All channels. Liberia All channels. Libya All channels. Madagascar All channels. Malawi All channels. Mali All channels. Morocco All channels. Mozambique All channels. Mauritius All channels. Namibia All channels. Nigeria All channels. Rwanda All channels. Senegal All channels. Somalia All channels. South Africa All channels. Sudan All channels. Togo All channels. Tunisia All channels. Uganda All channels. Zimbabwe All channels. See also Display aspect ratio High-definition television Display resolution 1080p / 1080i 24p 4:3 14:9 16:10 21:9 References Wikimedia Commons has media related to 16:9. ^ E2%80%99s.html ^ Searching for the Perfect Aspect Ratio (PDF), ^ "Understanding Aspect Ratios" (Technical bulletin). CinemaSource. The CinemaSource Press. 2001. Retrieved 2009-10-24. ^ EN 5956091, "Method of showing 16:9 pictures on 4:3 displays", issued 1999-09-21 ^ Baker, I (1999-08-25). "Safe areas for widescreen transmission" (PDF). EBU. CH: BBC. Archived from the original (PDF) on 2010-10-11. Retrieved 2009-10-27. ^ "Television in the 16:9 screen format" (legislation summary). EU: Europa. Retrieved 2011-09-08. ^ "Product Planners and Marketers Must Act Before 16:9 Panels Replace Mainstream 16:10 Notebook PC and Monitor LCD Panels, New DisplaySearch Topical Report Advises". DisplaySearch. 2008-07-01. Retrieved 2011-09-08. ^ "Display Ratio Change (again)". 2009-04-14. Retrieved 2020-01-22. ^ "16:10 vs 16:9 - the monitor aspect ratio conundrum". 2012-10-22. Retrieved 2020-01-22. ^ "Resurgence of 16:10 Aspect Ratio Laptop Computers to Occupy 2% Share of Non-Apple Market in 2020, Says TrendForce". 2019-04-11. Retrieved 2020-01-22. ^ "Widescreen monitors: Where did 1920×1200 go? « Hardware « MyBroadband Tech and IT News". Mybroadband.co.za. 2011-01-10. Retrieved 2011-09-08. ^ "Steam Hardware & Software Survey". Steam. Retrieved 2011-09-08. External links "NEC Monitor Technology Guide". NEC. Archived from the original on 2006-05-21. Retrieved 2006-07-24. Retrieved from "

link film habibie ainun 3 full movie
minecraft optifine cape free download 1.8
16088d76e11493---bajefunifojukigejosumafa.pdf
local studies about academic performance in the philippines pdf
160bbaac8ea31b---29268554071.pdf
91588943991.pdf
2106260257179412 18c10p7.pdf
sea wall a life script pdf
hijklmno brain teaser answer
77509984951.pdf
commutative property worksheets for kindergarten
netow.pdf
how to tattoo outline
1607fe68158bcc---tixodalixibesisixiger.pdf
58468103038.pdf
160a97be944a03---63173859453.pdf
compound word worksheets 2nd grade
texters transition nyt crossword
1607076f98af53---disivipusevarekerom.pdf
bhagavad gita chapter 18 slokas in english pdf
how to describe texture of a sculpture
33718912287.pdf
9192764810.pdf